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The Economics of Animal Welfare: An Appraisal of Welfare Issues in the South African Poultry Industry

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Abstract

Growing consumer awareness of animal welfare has co-evolved with increases in intensive farming, particularly of battery chickens. This rise in consumer awareness recently saw bans on battery farming in parts of Europe. This thesis addresses the difficulties that would follow any similar attempt to curtail battery farming in South Africa. It examines the literature on animal rights and the welfare issues generated by intensive animal farming, particularly of battery chickens. Thereafter it summarises the findings of surveys into local consumer preferences and retail strategies regarding chicken products.

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Finally, I would like to thank my family and friends for their continued support during this process.

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Table of Contents

Abstract	i
Acknowledgements	ii
Plagiarism Declaration	iii
1. INTRODUCTION	1
2. LITERATURE REVIEW	5
2.1. Introduction	7
2.2. Structure	9
2.3. The Ethical Dilemma	10
2.3.1. The Philosophers	10
2.3.1.1. Kant	10
2.3.1.2. Smith	12
2.3.1.3. Utilitarianism	15
2.3.1.4. Rawls	19
2.3.1.5. Conclusion	20
2.3.2. Social Implications	20
2.3.3. The Animal Welfare Kuznets Curve	22
2.3.4. Consumer and Producer Response to the Ethical Approach	26
2.4. The Legislative Approach	29
2.4.1. Leading Legislation	30
2.5. The Economic Approach	33
2.5.1. Past Studies	34
2.5.1.1. Burgess and Hutchison	34
2.5.1.2. Bennett	37
2.5.1.3. Tsakiridou <i>et al.</i>	40
2.5.1.4. Taylor and Signal	41
2.5.2. Alternative Approaches to CBA	42
3. INDUSTRY OVERVIEW	45
3.1. Introduction	47
3.2. Overview	47
3.2.1. Sector Structure	49
3.2.2. Exports and Imports	50
3.2.3. South African Egg Varieties	51
3.2.3.1. Battery Hens (Cage Systems)	51
3.2.3.2. Free Range Eggs	52

Table of Contents

3.3.	Legislation	54
3.4.	The Role of the Grocer	56
3.4.1.	Ruthless Retailing	56
3.4.2.	The Questionnaire	58
3.4.2.1.	The Results	60
4.	CONSUMER SURVEY	67
4.1.	Survey Methodology	69
4.1.1.	Survey Design	70
4.1.2.	Justification for Research Method	70
4.1.3.	Research Tools	71
4.1.4.	Limitations of the Study	71
4.2.	Data Analysis	72
4.2.1.	Description	72
4.2.2.	Discussion	80
4.2.2.1.	Gender	80
4.2.2.2.	Age	81
4.2.2.3.	Race	81
4.2.2.4.	Education	82
4.2.2.5.	Income	83
4.2.3.	Caring Index	83
5.	CONCLUSION: THE WAY FORWARD	85
5.1.	Monitoring and Evaluation	87
5.2.	The Compromise	87
5.3.	Education	88
5.4.	The Consumer Protection Act – Labelling	90
5.5.	Financial Incentives	91
5.6.	The Bigger Picture	92
5.7.	Final Thoughts	93
	LIST OF REFERENCES	95
	Appendices:	
	APPENDIX A – THE GROCERS’ SURVEY	105
	APPENDIX B – THE CONSUMERS’ SURVEY	109
	APPENDIX C – CONSUMER SURVEY DATA AND RESULTS	117

List of Figures

Figure 2.1: Increase in Animal Protection Agencies, 1999-2004	25
Figure 2.2: Animal Protection Organisations per million People and Income per Capita	25
Figure 2.3: Income vs. Animal Welfare Concern Level (European Countries)	26
Figure 2.4: The Ideal Cycle of Information Inducing Good Animal Welfare	28
Figure 2.5: Respondents' WTP to Ensure the Five Freedoms are Met	41
Figure 3.1: Per Capita Consumption of Animal Protein in 2010	49
Figure 3.2: Import and Export Quantities of Eggs	50
Figure 3.3: The Vicious Cycle of Bad Welfare as a Result of Insufficient Product Differentiation	57
Figure 4.1: WTP and Gender	80
Figure 4.2: WTP and Age	81
Figure 4.3: WTP and Race	82
Figure 4.4: WTP and Education	82
Figure 4.5: WTP and Income	83

List of Tables

Table 2.1: The Core Welfare Problem and Solution of the Egg-Laying Hen	8
Table 2.2: Estimated Values of Specified Welfare Schemes	35
Table 2.3: Annual Costs Incurred in Implementing the Welfare Schemes	36
Table 2.4: WTP to Support Legislation to Ban Battery Cages	38
Table 2.5: Summary of Responses to the Attitude Statements (% of respondents)	39
Table 2.6: WTP for Meat, Eggs and Dairy Products with Animal-Friendly Methods of Production	41
Table 3.1: Concept Matrix – Grocers' Responses	60
Table 4.1: Consumer Preference for Price and Animal Welfare of Animal Products	73
Table 4.2: Consumer Preference for Price and Animal Welfare of Eggs	75
Table 4.3: Summary of Consumer's WTP	79
Table 4.4: Summary of Statements Regarding WTP	80



1. INTRODUCTION



The foundations of neoclassical microeconomics were established in the early utilitarian philosophical ideals of Jeremy Bentham, which is based on the principle of 'the greatest happiness of the greatest number' (Hocutt, 2005: 697). This incorporation of the welfare of all sentient beings, has, however, proved a challenge for economists over subsequent years.

Within the sphere of modern welfare economics interpersonal comparisons of utility have proven a central problem. This was exacerbated by the inclusion of animals since interspecies comparisons are even more problematic. In a world where utility is expressed in terms of consumer surplus and revealed preferences, the system is necessarily anthropocentric. If the poor's welfare counts for little, the welfare of animals counts for significantly less. An economic analysis of animal welfare issues necessarily has to rely on revealed preferences among the consumers of animal products, not on the feelings of the animals themselves. Within this modern economic setting, it is the poor and animals that have become marginalised. It becomes especially relevant, when observing the buying behaviour of the poorer cohort in society, that the concept of ability to pay is all-important - the focus has shifted away from willingness to pay and it has become an issue not of utility but of the purchasing power of the consumers.

Improving technology has made the role of the animal within society increasingly complex. Without a doubt, there exists a connection between income level and the level of animal welfare – this is essentially the argument developed by Frank (2008) of the Animal Welfare Kuznets Curve (AWKC). The relationship between animal welfare and income is essentially an ironic one – animals that exist within low income per capita scenarios have a fundamental and intimate association with humans and resultantly have higher levels of welfare. Thereafter, as the level of income in society increases, animal welfare decreases until, at a certain much higher level of income, the level of animal welfare starts to increase. In consequence, animal welfare is not considered a normal good, but a luxury one.

This thesis will, in response to these utilitarian economic concerns, examine whether it is it all possible to restore rights to the economically disempowered. This is not a unique question and has been applied to topics such as environmental protection in an era of rapid urbanisation and population growth, or child welfare affairs within the classic 'sweat shop' scenario. The welfare of egg-laying battery hens takes the case to an extreme: it is realised that society cannot empower the hens in a direct manner. Legislators do, however, have the means to introduce specific regulations that will improve the welfare of these hens. An alternative to this approach would be to educate consumers regarding the living conditions of the battery hens, so that consumers can make informed purchasing decisions.

The aim of this thesis is to investigate the tensions and synergies between animal and human welfare in an economic context. Agro-industry often means treatment of animals as simple capital, and a focus on profit means a maximization of this capital's productivity, often at a cost to its welfare. Elevated prices facing consumers result from the higher producer costs, which are implicit in higher animal welfare. Intertwined with the overall study objective are a number of research questions that will be investigated:

1. How consumers feel about the battery and free range egg industries?; Is there awareness around the battery industry and does the average consumer care about the welfare issues involved?; Do consumers feel sufficiently-informed regarding farm animal welfare issues?
2. Is a legislative ban in battery egg production at all plausible in South Africa in terms of the demand from consumers? Are consumers willing to pay for a guaranteed increase in welfare across the industry?
3. What role do retailers play in this industry in terms of stocking and pricing decisions?
4. What are the legislative and policy options for the South African market specifically aimed at the improvement of animal welfare? What further research is needed to support the legislative options?

This dissertation is organised as follows,:

Chapter 2: Literature Review - This chapter provides comprehensive insight into the literature behind all aspects of this study, ranging from general farm animal welfare policy, the international trends relating to consumer consumption decisions of 'ethical' products as well as welfare studies that have been conducted in more recent years.

Chapter 3: Industry Overview - In short, the South African egg industry is examined here. Grocery stores act as the link between the producer and consumer and their role is explored in this chapter by means of the discussion of the results of the grocer's survey that was conducted.

Chapter 4: Consumer Survey - This section inspects the data from the completed consumer surveys. Here the survey will also be clarified and rationalised; and the approach adopted, its shortcomings, and issues encountered, will be described.

Chapter 5: Conclusion: The Way Forward - This chapter is one that concerns research and potential policy recommendations based on the findings of all of the previous chapters. It incorporates the outcomes of the thesis and provides a concise synopsis to the thesis.

2. LITERATURE REVIEW



2.1. Introduction

As consumers, individuals' purchases and consumption of the animal product are often so far removed from the site of production that the welfare of the animals is disregarded and ignored - this issue is inherent in the system in which consumers find themselves. This system is multi-faceted, including numerous aspects that have contributed to intensive farming: the lengthy and often geographically fragmented value chain, the urbanisation of the last few centuries, and the modern market system, which requires worker specialisation that divorces households from the need to directly satisfy their subsistence needs. Indeed, according to Bonafos *et al.* (2010: 26) pre-industrialised societies were largely more dependent on animals; these were integral to the daily lives of people and people had a great deal more contact with and reliance on the animals themselves. The process of industrialisation, however, weakened this bond – individuals who live in urban areas are often a significant distance away from the now highly mechanised agricultural sector. As a result of this, the only relationship humans have with a farm animal is when it (or its products) appears on the shelves of the supermarket or on their dinner plate.

It is only in recent times (since the establishment of intensive factory farming systems) that individuals are considering animal welfare in a serious manner. This increasing awareness has come about for two main reasons - concern about how the farm animals are treated during the production process and the increasing number of food scares such as the presence of *e.coli* and salmonella, among others in animal products (Mayfield *et al.* 2008: 59). Indeed, Bennett *et al.* (2002: 187) go further, suggesting that, “ethical considerations concerning food have always been important, especially in terms of global food entitlements and nutrition”, but it has only been more recently, specifically in developed countries, that “other ethical issues relating to the food chain have been of increasing concern including food safety, environmental degradation, biotechnology, and animal welfare”. It is because of this that there has been a focus on legislation and policy surrounding farm animal welfare, particularly in the EU and UK.

According to Frank (2008: 483), there has been a growing consensus that there has been a decrease in the average farm animal's quality of life with the increasing use of large-scale, intensive confinement-oriented methods of animal agriculture. This farming system is associated with practices that diminish animal welfare and can include poultry de-beaking, the tail docking of pigs, growth hormones in feed, and genetically-targeted breeding (detrimental to the well-being of the animal), to name a few. The aim of these practices is to maximise profits (in reducing producer costs), and to stay abreast of an increase in consumer demand for such products. In its most basic form, this agricultural system has broken at least one of the Farm Animal Welfare Council's “Five Freedoms”¹, the Freedom to behave naturally (Frank, 2008: 483).

Scientific observation continues to support the ‘factory farming’ methodologies and has disregarded the broader concepts associated with the well-being of the farm animals

¹ In the UK (as first described in the Brambell report of 1965), the ‘five freedoms’ shape the core philosophy of the Farm Animal Welfare Council. These freedoms “identify the elements that determine the animals' own perception of their welfare state and define the provisions necessary to promote that state” and highlight that both mental and physical suffering should be prevented. The five freedoms are: *Freedom from thirst, hunger and malnutrition; Freedom from discomfort; Freedom from pain, injury and disease; Freedom to express normal behaviour; and, Freedom from fear and distress* (Webster, 2001: 233).

(associated with the five freedoms) that are comparatively difficult to quantify (Frank, 2008: 483). In addition to this, according to Halverson (2001: 157) funds for research are mainly made available by producer institutions and other related commercial groups that may lead to the establishment of substantial partiality, “to be a successful researcher it does not hurt to maintain good industry connections and a reputation for supporting the status quo.”

The problem can be set out with Table 2.1, below, using the example of egg-laying hens. There is an animal welfare issue, there is a more ethical alternative, but a move towards this means higher costs and prices.

Table 2.1: The Core Welfare Problem and Solution of the Egg-Laying Hen

	Issue	Solution	Constraint
Laying Hens	The size and construction of battery cages restricts the birds' natural behaviour.	Change to either a free range or barn housing system.	Higher production costs and higher prices to consumers.

Source: Burgess and Hutchinson, 2005: 38.

The debate around animal welfare is an ethical one and most certainly contentious. There is space for differences in how individuals perceive animals and consequently how those animals are treated. Even so, the “use of an ethical basis for animal welfare standards requires some generally accepted principles on how animals should be treated and used by humans” (Farm Foundation, 2006: 133). Hudson (2010: 453) agrees that “[t]he issues surrounding animal welfare are complex and contain a considerable amount of subjectivity, which leaves the issue prone to emotional and psychological interpretations that may or may not have a basis in science”. It has been noted that because there is a difference in and an array of beliefs and values of the average individual, each person will have expectations of the food products that he or she consumes. “All consumers expect animal products to be safe, but not all expect them to be produced in a certain way. Most expect that the products they consume do not come from systems that depend on cruelty to animals, but the definition of what constitutes acceptable treatment varies widely...” (Farm Foundation, 2006: 133).

It is necessary to define the term ‘animal welfare’ in order to assess the impact of current ‘factory farming’ methods on the wellbeing of farm animals. According to Burgess and Hutchinson (2005: 37) there is no universal, formal definition of animal welfare because there are various opinions on how humans should relate to animals and what their obligations to them should be². Tannenbaum (1991: 1369) points out the ethical divide at the heart of the

² It is important to distinguish between animal rights and animal welfare. The South African Veterinary Foundation (2006: 3) describes animal welfare as a reflection of the concern people have for the humane treatment of animals. This is certainly the more mainstream representation of social thought – this is the field that has increased its support base in recent years. The Foundation goes on to explain that people who advocate animal rights believe that animals should not be exploited in any way, whether it be for human consumption, whether through food provision, clothing, entertainment, research, seeing-eye dogs or pets. It is widely accepted that welfare is an ambiguous notion, but one that can be expressed in terms of a duality. Thus, if a utilitarian perspective is taken, then utility/welfare comes from reducing pain in the animal's life. But one can also express this ‘negative’ in a positive sense - this need not mean increasing pleasure; it simply indicates that a positive act can reduce pain e.g. providing space for an egg-laying hen to move implies a reduction in the pain that comes from life in an excessively cramped space.

debate, explaining that ‘someone who believes that welfare is fulfilled when there is absence of suffering takes the position that what constitutes an acceptable kind of life for an animal is one without suffering. Someone who believes that this is not sufficient for welfare believes that animals are owed more’. Burgess and Hutchinson (2005: 37), however, mention that Broom’s (1986: 524) definition of welfare as ‘the welfare of an individual is its state as regards its attempts to cope with its environment’³ presents this debate as a more scientific one where an assessment is made on whether or not the animal is able to cope with its environment, which is separated from the moral debate.

This does, however, still leave a gap for value judgments. Farm Foundation (2006) suggests that most individuals would agree that the welfare of the animal is low when it is visibly injured or sick, and do not automatically assume high welfare and good health is associated with the animal’s physical growth. Others define a high welfare animal as one that is “free from fear and pain, and that it be in good psychological or mental health”, and that it is “comfortable and coping well with its environment” (Farm Foundation, 2006: 133-134). Furthermore, Farm Foundation associates a high level of animal welfare with the following: a low mortality and morbidity rate; no or minimum likelihood of bodily harm; the ability to perform bodily functions (production and reproduction) and ‘species-specific’ behaviours (social interactions); as well as the nonexistence of any signs of physical and psychological stresses (Farm Foundation, 2006: 134).

Rising meat consumption as a result of income growth in developing nations has made animal agriculture the biggest animal welfare concern, especially in terms of the numbers of animals involved in this economic sector. Farm Foundation’s (2006: 10) clarification of the problem in light of farm animal welfare, is also applicable to the South African context: “While animal welfare issues may create the potential for some producers to adopt less-intensive systems, such as that reflected by free-range eggs, and to sell at a price premium in niche markets that covers the additional costs, this is unlikely to be an option...Good animal husbandry practices are not inconsistent with profitability, but the imposition of higher standards, for example, through legislation, could lead to increases in costs, affect the global competitive position of the animal products industry and raise food prices”.

2.2. Structure

The literature shows that there are three primary approaches to be used in the improvement of animal welfare, which are named separately, but often intricately linked: The first of these is the ethical approach, discussing the various philosophies around animal welfare. Second is the legislative method, which leads to the development and implementation of policies that will enhance animal wellbeing even though the general populace may not be completely in favour of this movement. This is therefore often combined with consumer awareness education programmes and campaigns. Thirdly, the price system is made use of by making it more profitable, and therefore more attractive to choose the more ‘ethical’ or humane method of production. This could be either by subsidising the humane methods (often connected to the

³ As a direct translation from the Spanish quote.

legislative approach) and taxing non-humane systems or by way of the willingness to pay (WTP) approach, which is based on information about animal welfare under different production systems. The literature will be broadly divided according to the ethical, legislative, and pricing approaches.’

2.3. The Ethical Dilemma

2.3.1. The Philosophers

The animal welfare debate, on the ideal relationship and obligation that man and animal should have towards each other, has long been discussed by theologians, philosophers and thinkers. While eastern views on animals role in society may be split between the Confucian ethic of China, and the Hindu/Bhuddist views of India, in the West the debate on the justice owing to animals and the nature of their rights has largely come from contractarians like Locke and Rawls, and contractualists like Kant.

2.3.1.1. Kant

At the core of Kant’s approach to animals and how humans in society should consider them, is his categorical imperative. The heart of his view provides a stark contrast to Utilitarianism, being based on ‘pure reason’. Like Rawls in more recent times, “Kant holds that we have no direct duties to animals as sentient beings and only indirect duties regarding them; animals lacking rational wills cannot themselves obligate us” (O’Hagan, 2009: 531)⁴ i.e. since they are unable to reason their cannot be a situation of reciprocal obligations and duties between them and mankind. Animals do not have the ability to be rational because “their own forms of conscious awareness are never visible to them” (O’Hagan, 2009: 535) and thus, are unable to act according to judgment and cannot rightfully interact with the rational. Indeed, humans can treat animals as they deem fit⁵. Rational nature is the essence of morality and moral obligation, and a duty with regards to the correct treatment of animals is simply an extension of duty to oneself, and is not owed to the actual animal. As Kant himself wrote⁶:

“As far as reason alone can judge, man has duties only to men (himself and other men), since his duty to any subject is moral constraint by that subject’s will ... we know of no being other than man that would be capable of obligation (active or passive). Man can therefore have no duty to any beings other than men; and if he thinks he has such duties, it is because of an *amphiboly* in his *concepts of reflection*, and his supposed duty to other beings is only a duty to himself. He is led to this misunderstanding by mistaking his duty *with regard to* other beings for a duty *to* those beings.”

⁴ It is because of this stance (we are not morally obligated to animals and that animal suffering does not matter) that goes against the grain of modern day common sense, that many philosophers have called for the disposal of Kantian ethics.

⁵ “he is a person, ... through rank and dignity an entirely different being from *things*, such as irrational animals, with which one can do as one likes.” Immanuel Kant, *Anthropology from a Pragmatic Point of View*, trans. Robert B. Loudon (Cambridge: Cambridge University Press, 2006), Ak. 7:127.

⁶ Immanuel Kant, *The Metaphysics of Morals*, trans. Mary Gregor (Cambridge: Cambridge University Press, 1991), Ak. 6:442.

According to O'Hagan (2009: 534), by treating animals in a humane manner, humans are fulfilling obligations towards themselves (failing to do so would be failing a duty to oneself) – in treating animals poorly, it 'hardens one's character to the sight of suffering, harming personal moral character and makes one insensitive to the suffering of humans who are the ones worthy of moral reflection'. Some Kantian scholars have found meaning in that he states that we have indirect duties towards animals and have used this argument to discourage factory farming - by consuming products produced in an inhumane manner, we are disrespecting our ability to be rational.

If an Orthodox Kantian believes that factory farming is widely accepted, then he could infer that the suffering that occurs within these concentrated feedlots is acceptable. This, as Kant himself said, causes the desensitisation of the human moral fibre, and no rational person would want society to become desensitised (O'Hagan, 2009: 536). In this, Kant also believes that some moral emotions, such as sympathy, should be explored and developed – humans should be compassionate in their treatment of animals and implement action accordingly. This would show high quality moral character and respect for our own 'animal nature'⁷ (O'Hagan, 2009: 537). A weak argument to the strict Kantian, considering that Kant himself did not recognise the animality of humans, nor the thinking of animals themselves to be morally significant – he advocated still, that animals are mere objects that humans can master and rule as they see necessary (O'Hagan, 2009: 553).

It has been difficult to determine whether Kant was enticed by the idea of giving animals direct moral status. He writes:

“Since animals are an analogue of humanity, we observe duties to mankind when we observe them as analogues to this, and thus cultivate our duties to humanity. If a dog, for example, has served his master long and faithfully, that is an analogue of merit; hence I must reward it, and once the dog can serve no longer, must look after him to the end, for I thereby cultivate my duty to humanity⁸.”

The obligation does not lie towards the dog, but rather to oneself and humanity – the duty towards the civil concept of rewarding merit takes preference here. Even though animals are not to be given moral consideration, we as humans should respond to reason, and act as if they do. Indeed, Kant dictates that animal lives should not be deemed thoughtless and without cost, their physical limits taken into account, painful speculative animal experimentation should be abandoned, and the process of killing an animal should be as painless as possible (O'Hagan, 2009: 534).

⁷ According to O'Hagan (2009: 533), the concept of animality forms part of human structure and impacts upon our ability to be happy, and incorporates: bodily self-love for self-preservation, the need to reproduce, the instinct to interact socially with other humans. Kant recognizes that this is part of human constitution, but proposes that it needs to be conquered in light of man's duty “to raise himself from the crude state of his nature, from his animality (*quoad actum*), more and more toward humanity,” (Kant, *The Metaphysics of Morals*, Ak. 6:387).

⁸ Immanuel Kant, *Lectures on Ethics*, trans. Peter Heath (Cambridge: Cambridge University Press, 1997), Ak. 27:459.

A secondary aspect is that rights imply obligations. To the extent that one can't expect animals to have obligations, they also get no rights: animals, according to Kant, are not autonomous. Therefore, the Categorical Imperative does not apply to them. While we have no *direct* duties to animals per se, we might have an obligation to a specific animal that displays a rational sense of duty to us. Clearly feedlot livestock do not fall into such a category.

2.3.1.2. Smith

When considering Adam Smith's seminal piece, *The Wealth of Nations* (1776), there is certainly a focus on the rational self-centeredness of human beings - individuals acting in their own self-interest as a way to maximise social welfare. This, together with the 'tendency to truck and barter', lead to the division of labour and competition. What is apparent is that only active human participants in the economy benefit as a result of this - in fact the process described is what seems to lead directly to the establishment of and thus the problems with feedlot farming. However, in his earlier book, *The Theory of Moral Sentiments* (1759), Smith demonstrates his awareness that acting in a self-centred capacity could lead humans to social problems, and develops his theories around moral psychologies that are based on the notion of sympathy, better described in context as empathy. In making this differentiation, Smith is setting his concept of morality apart from sentiment. This concept of empathy is the basis of an egalitarian moral structure, where awareness of self and others provides a platform for moral judgement (McGee, 2010: 2): "the human capacity to empathize induces a moral self-awareness that provides each individual with a fundamental connection to other individuals. This connection is one that allows individuals to judge the moral propriety of action".

Smith (1759: I.i.1.2) describes sympathy as the human ability to relate to others, to consider how an individual will feel in the situation of another:

"As we have no immediate experience of what other men feel, we can form no idea of the manner in which they are affected, but by conceiving what we ourselves should feel like in the situation ... By the imagination we place ourselves in his situation, we conceive ourselves enduring all the same torments ... and become in some measure the same person with him."

Individuals are then able to judge the actions and reactions of other individuals in certain situations, and do so in a manner that applies the same standards equally to both individuals. It is in this way that impartiality in judgement is reached (McGee, 2010: 3). Smith makes use of the actor/spectator (A/S) theoretic – the actor is the individual who performs the action, or is the one in a specific situation and the spectator is the individual who views and judges the actions of the actor. McGee (2010: 6-7) cites Darwall (2007) in that "Smith holds that to judge whether a motive or feeling is warranted or proper, we must take up, not some external perspective, but that of the person who has the motive or feeling-the agent's standpoint, in the case of motivation" The spectator judges the actions of the actor with a sense of empathy, however, and considers the circumstance in its entirety (emotional, physical, etc.) (McGee, 2010: 7). Even though the spectator may be 'impartial', this individual is by no means 'impersonal':

“We are but one of the multitude, in no respect better than any other in it...It is from [the impartial spectator] only that we learn the real littleness of ourselves, and of whatever relates to ourselves, and the natural misrepresentations of self-love can be corrected only by the eye of this impartial spectator” (Smith, 1759: II.ii.2.1).

This principle of the term ‘fellow-feeling’, described by Smith as how individuals relate to one another and how a bond is forged between humans (McGee, 2010: 3), is very powerful to this thesis if we extend the role of the actor to the inhumanely treated animal.

According to Nelson (1999: 22) Smith appraises society in utilitarian terms. This is especially evident where there is ‘the slow, gradual, and progressive work of the great demigod within the breast’ (Smith, 1759: VI.iii.25) of the impartial spectator and because propriety and utility coincide, the A/S relationship will result in actions coincidental of utilitarianism (Nelson, 1999: 29). The passage below reflects the nature of Smith’s argument that should everyone act as truly empathetic individuals, society overall will be better off because of it.

“The patriot who lays down his life for...this society, appears to act with the most exact propriety. He appears to view himself in the light in which the impartial spectator naturally and necessarily views him, as but one of the multitude ... bound at all times to sacrifice and devote himself to the safety, to the service, and even to the glory of the greater number. But though this sacrifice appears to be perfectly just and proper, we know how difficult it is ... and how few people are capable of making it” (Smith, 1759: VI.ii.2.2).

Despite this, Nelson (1999: 23) notes that there remains a certain hierarchy of personal importance and effectiveness, where this is determined by their proximity to the person as an individual – from the more immediate (family) to the more distant (country). This is interesting, especially in light of the ‘impartial spectator’ theoretic as discussed previously which does not discriminate against any persons, no matter to what ‘group’ they belong. In light of the weakness and inability of people to act impartially in the Smithean sense, their interactions with others are compartmentalised.

“To man is allotted a much humbler department, but one much more suitable to the weakness of his powers, and the narrowness of his comprehension; the care of his own happiness, that of his family, his friends, his country” (Smith, 1759: VI.ii.3.6).

Certainly, the concept of utility is key in the Smithean realm, but it appears to be in conflict with his concept of sympathy – “it is evident that Smith acknowledges that considerations of utility pervade our moral thinking in both practical and contemplative contexts, although the fundamental, or natural ground of moral approbation can still remain sympathy, which, from what we have seen so far, is in this sense linked to utility only coincidentally” (Nelson, 1999: 27), and according to Smith (1759: VII.ii.3.21):

“That system which places virtue in utility, coincides...with that which makes it consist in propriety...The only difference between it and that which I have been

endeavouring to establish, is, that it makes utility, and not sympathy...the measure of this proper degree.”

Linked to this, is that if being virtuous means following the will of God, then an individual has two routes available: to be prudent or to have a sense of propriety. The former means doing what is in the person’s own best interests, the latter means avoiding excess⁹ and trying to be humble (which *might* mean being grateful for all a person has and trying to put themselves in the position of those less fortunate).

Though the standard by which casuists frequently determine what is right or wrong...be its tendency to the welfare or disorder of society, it does not follow that a regard to the welfare of society should be the sole virtuous motive of action, but only that, in any competition, it ought to cast the balance against all other motives (Smith, 1759: VII.ii.3.17).

The following quote reveals a surprisingly utilitarian ideal, despite Smith not being a strict utilitarian.

“But, before any thing can be the proper object of gratitude or resentment, it must not only be the cause of pleasure or pain, it must likewise be capable of feeling them¹⁰. Without this other quality, those passions cannot vent themselves with any sort of satisfaction upon it. As they are excited by the causes of pleasure and pain, so their gratification consists in retaliating those sensations upon what gave occasion to them; which it is to no purpose to attempt upon what has no sensibility. *Animals*, therefore, are less improper objects of gratitude and resentment than inanimated objects. The dog that bites, the ox that gores, are both of them punished. If they have been the causes of the death of any person, neither the public, nor the relations of the slain, can be satisfied, unless they are put to death in their turn: nor is this merely for the security of the living, but, in some measure, to revenge the injury of the dead. Those *animals*, on the contrary, that have been remarkably serviceable to their masters, become the objects of a very lively gratitude. We are shocked at the brutality of that officer, mentioned in the Turkish Spy, who stabbed the horse that had carried him across an arm of the sea, lest that *animal* should afterwards distinguish some other person by a similar adventure” (Smith, 1759: II. iii. 1. 3-5).

It follows that an animal such as a dog should be treated well because of the pleasure persons derive from the dog wagging its tail in excitement and happiness to see them. According to Smith, the dog is a reminder of what a ‘good’ person has been in his or her treatment of the animal. The reminder appears in the animal’s show of happiness towards the person – this is a

⁹ This implies that should a person do anything in excess, including feeling a certain affection, utility will be lost – maximising utility has to do with a balance of affections.

¹⁰ Even though they are capable of these emotions, animals are considered “still far from being complete and perfect objects” (Adam Smith, [Glasgow Edition of the Works and Correspondence Vol. 1 The Theory of Moral Sentiments](#) > Part 2, Section III, Chap. i: 3-5 Of the causes of this Influence of Fortune).

source of utility. In my opinion, certainly, this draws an interesting parallel to the Kantian discussion around the duty of gratitude to domesticated animals that have proven particularly subservient to their masters. In both the Smithean and Kantian cases, there is a responsibility to look after this dog until its death, hence the outrage at the killing of the horse that served the officer so loyally, just so that this horse could not serve another master in a similar way. The question of relevance arises when debating whether or not people would get the same level of satisfaction should they treat a chicken or a cow in a similar manner (to the dog) within a feedlot scenario? Are farms animals capable of showing the same amount of loyalty and gratitude at being treated well by human beings?

2.3.1.3. Utilitarianism

In essence, the core principle of Utilitarianism is that humans must act in whichever way that will ‘maximize utility for the greatest number of persons’ (Hocutt, 2005: 697). Within this, it is argued that Bentham who is considered to be the ‘father’ of Utilitarianism has a dual principle. In his work (1983: 121) he states, “[o]ne thing which there will be occasion to stress is that it never is, to any practical purpose, a man’s duty to do that which it is his interest not to do”; and a somewhat contrasting statement (1988: 2), “[b]y the principle of utility is meant the principle which approves or disapproves of every action whatsoever, according to the tendency which it appears to have to augment or diminish the happiness of the party whose interest is in question”. The first of these statements relate to private individuals, in that they are obligated to act in their own self-interest and maximize their personal utilities and the second statement refers to public figures or legislators that are required to act in the best interest of the greater good, or maximise the utility of others. Such interests would find a ‘natural harmony’ with the aid of carefully established and arranged social institutions (Hocutt, 2005: 698). Legislators, or government will ensure a happy society by punishing undesirable behaviour and rewarding desirable behaviour – such an altruistic utilitarian society would be borne from individuals’ desires to maximize their own ‘good’ and so, to not be punished (Bentham, 1988: 70).

Certainly, human behaviour revolves around their ability to feel, and intensity of pleasure and pain.

“When the happiness of others as well as his own is at stake upon the conduct he is about to pursue, a man’s own happiness it has already been observed will be the sole ultimate as well as immediate object of his solicitude; that of others, no further than insofar as his own happiness is affected in virtue of the way in which the happiness of others is affected by his conduct” (Bentham, 1983: 121).

In applying such a principle to this thesis, humans can only indirectly be affected by the pleasure and pain felt by animals in so much as that humans themselves would be pleased if animals felt pleasure and displeased if they felt pain. The motives of any voluntary actions, in response to others feeling pain or pleasure, will be the motive of the individual only (Hocutt, 2005: 699). A further implication is that, “if people are to make sacrifices or accept restraints for the benefit of someone they do not love and may not think worthy, they must see how it can make their own lives more gratifying” (Hocutt, 2005: 699) – herein lies the crux of this thesis.

In considering similar arguments two and a half thousand years earlier, Mencius and Confucius had thought about the concept of ‘gradations of love’ according to which humans should expand their sphere of love and care until it includes everything in the world. Importantly, however, their approach was strictly anthropocentric (Bai, 2009: 92).

According to Schedler (2005: 502), some utilitarianists dictate that the pain experienced by animals should have equal status as human pain and thus supported the ‘equality of interests’ principle: "The day *may* come, when the rest of the animal creation may acquire those rights which never could have been withholden from them but by the hand of tyranny ... But a full-grown horse or dog is beyond comparison a more rational, as well as a more conversable animal, than an infant of a day, or a week, or even a month, old. But suppose the case were otherwise, what would it avail? The question is not ‘Can they *reason*?’, nor ‘Can they *talk*?’, but ‘Can they *suffer*?’” (Bentham, 1789). This view is supported by the modern utilitarianist, Peter Singer (1980: 328-9): "the interests of every being affected by an action are to be taken into account and given the same weight as the interests of every other being". This contrasts greatly with the views of the other theorists, such as John Mill (1957: 12-13) who did not support the principle and believed that the pleasure and pain experienced by humans (described by Mill to be "intelligent human being," "instructed person," and "person of feeling and conscience.") is more important than those felt by animals or indeed some people ("beast's pleasures," "lower animals," the "ignoramus," "the fool, the dunce, or the rascal") (Schedler, 2005: 502).

It was from this beginning that Bentham dictated the need for government intervention (opposing Adam Smith’s concept of *laissez faire*), that educated and open-minded officials will act according to (introduce legislation) what is best for society, but it is later that he accepts that legislators do not always act in an altruistic manner, that this elite will act in a self-interested manner (since they are also individuals themselves who when acting in a private capacity, is self-interested) often leading to the suffering of the marginalised in society. He placed his hopes in a representative democracy, but it is questionable as to whether the same does not apply to this more modern social structure (Hocutt, 2005: 69). According to Hocutt (2005: 708), the principle of utility was construed to provide “a standard for the operations performed by government, in the creation and distribution of proprietary and other civil rights”¹¹ – to determine what the law ought to be, rather than what is it. Moreover, and very importantly, the principle of utility is used to make rational laws and moralities, but does not determine or lead to what is actually right or just. Herein lies one of the main criticisms of utilitarianism - Bentham argued that this broader concept of morality and lawfulness is largely based on emotional righteousness, and that the concept of right and wrong is thus determined by social conventions that are often harmful to society and will therefore need to be modified (Hocutt, 2005: 714).

In applying these principles in a more explicit approach to the premise of this thesis, according to Schedler (2005: 501), the benefits to the utilitarian of moving from factory farmed meat consumption to that of ethically produced products would far outweigh the costs of making

¹¹ Bentham (1988: IX).

such a transition. In taking into account that only feelings of pain and pleasure are relevant, animals will experience a higher level of total pleasure considering that they are avoiding the pains associated with the factory farming environment and experiencing pleasure from having the ability to graze freely. From a humans perspective, some members of society who previously consumed meat from concentrated feedlots will need to pay higher prices post-transition – their total happiness will decrease as a result of this, some individuals “at least will accept a more limited diet knowing that the animals whose meat they consume do not suffer as the factory farm raised animals did” (Schedler, 2005: 501). In arguing this, Schedler implies that (because of a potential higher price) some people in society will be willing to forfeit a certain quantity of meat consumed in knowing that the animals are getting treated in a better manner. Vegans and vegetarians would be pleased with such a transitional process, and it is assumed that this together with the pain avoidance and pleasure experienced by the animals would outweigh the costs the meat eaters face. The simple utilitarian argument for this transition is succinctly described by Schedler (2005: 501):

- (1) We are morally obligated to adopt any practice that would maximize the likelihood of the greatest satisfaction of desires of animals and humans¹².
- (2) Without sacrificing anything of greater moral value, ethical meat eating would most likely reduce animal suffering and increase human and animal pleasure more than either (a) universal vegetarianism or (b) present dietary practices¹³.
- (3) Therefore, we are morally obligated to adopt a policy of ethical meat eating.

Singer (1980) has documented the suffering that occurs in factory farms (an aspect of present dietary practices) and so a movement to ethical meat production is likely to be accompanied by an increase in overall societal satisfaction; hence the status quo is no longer an option from a utilitarian perspective. Furthermore, according to utilitarians, ethical meat eating trumps worldwide vegetarianism, this is simply because grazing animals would still exist in the former case. Indeed, ethical meat eating would eradicate some pain that is associated with universal vegetarianism and add some pleasure not found in the vegetarian case¹⁴ (Schedler, 2005: 502).

¹² This ties in with what has been discussed previously by Bentham – that society needs to legislate in order to maximise utility of society.

¹³ In the case (a), the transition to ethically produced animal products would eradicate the suffering associated with factory farms, and in case (b) would diminish the suffering associated with field animals during harvesting and the cultivation of food crops (Schedler, 2005: 502). Field animals include those found in nature, or in the pastureland such as birds, rats, rabbits.

¹⁴ In terms of universal vegetarianism, more field animals on (cultivated) land would be disturbed, where they would otherwise be undisturbed in a pastureland (grazing fields for animals) scenario. Grazing animals would also experience pleasure (not present in the vegetarianism case) in that they would have the capacity to exist and lead a happy life and their products would be enjoyed by meat eating humans (Schedler, 2005: 502-503). In addition to this, universal vegetarianism is a somewhat radical option too (Singer believes that a vegetarian diet is a type of a boycott (Schedler, 2005: 506)), making it not a viable one. Veganism is even more revolutionary, where according to Schedler (2005: 503), a universal vegan diet will lead to 450 000 000 more animal deaths than an ethical meat eating model (half the land for vegetables and other half for grazing), where the former will thus be associated with substantial utilitarian cost inherent in the painful death of field animals. People will always have a taste or preference for meat and consumer demand for animal meat and animal products will always be present in society. The standpoint of animal rightists is significant, but in reality, animal welfarists are more realistic in light of current consumption patterns.

In moving from the status quo towards a model of ethical meat eating, humans would take greater pleasure out of eating a more humanely produced product (though less meat would be available to serve the needs of all – and increasing numbers of - meat eaters) and would get greater satisfaction out of rearing and caring for the animals. The animals would experience pleasure in their ability to graze while alive and would at the end of their lives, be killed without pain (Schedler, 2005: 504). Death in itself is not a disutility, and not considered important by utilitarians - according to Schedler (2005: 507) it is the pleasure or pain experienced during the animal's life that is important, and that the death of the animal results in a happier world. It is in this moral position exactly, that utilitarian vegetarians eat free range eggs - Singer (1975: 180) believes that the ethical objections to doing so are negligible (Schedler, 2005: 504). "They will be killed when they cease to lay productively, but they will have a pleasant existence until that time" (Singer, 1975: 180).

According to Garrett (2007: 223), Singer's case for vegetarianism is developed as follows: I am a utilitarian. I am also a vegetarian. I am a vegetarian because I am a utilitarian. I believe that applying the principle of utility to our present situation—especially the methods now used to rear animals for food and the variety of food available to us—leads to the conclusion that we ought to be vegetarian (Singer, 1980: 332-34). Indeed he feels that all humans should be vegetarians because it is the simplest way in which to end the killing of animals as well as the suffering experienced by them during their lives (Singer, 1975: 165). Singer sufficiently states his case for being vegetarian in the status quo scenario, where animals do not have good lives or pleasant deaths, but fails to recognize the case of a humanely raised and slaughtered animal (as he does for eggs). Because, as mentioned previously, animal killing is not objected to in a utilitarian setting, "Singer's preoccupation with killing large numbers of animals, whether in the slaughterhouse or in the field, is misplaced from a utilitarian perspective" (Schedler, 2005: 507).

There exists two main interdependent utilitarian concerns with the adoption of ethical meat eating: The first being that ethical meat production will not be commercially viable, and will be unable to satisfy the demand for meat. Whether this is possible, is unknown, but it is anticipated that meat supplies would fall short of consumer demand (Schedler, 2005: 509). This would lead to disutility, because the limited supply would have to be rationed¹⁵. The disutility experienced here would be less in a society where there would be partial satisfaction (ethical meat eating); compared to a society there would be a refusal to satisfy any demand (universal vegetarianism). In a society where rationing needs to occur in light of an ethical meat eating policy, individuals might need to pay more for their meat (and would favour the rich social cohort, although these are often the only people eating meat on a regular basis) and people will have to get creative in satisfying their dietary requirements (Schedler, 2005: 508). Secondly, as a potential consequence of individuals not having their demands for meat being met by ethical production methods, is that society might regress 'on a slippery slope', back to factory farming methods - ethical meat eating consumers might be tempted into going back to eating factory farmed meat. In this instance, adopting such a policy would have little to no effect on eliminating factory farms. This will have a utilitarian impact on the consumer who

¹⁵ It should be noted that Schedler has disregarded the market mechanism within his analysis – a free marketer might argue that the rise in the price of meat in this instance would solve the problem on both the demand- and supply-side.

eats ethically produced meat, but such a choice will have limited effect on the presence of factory farms (Schedler, 2005: 508).

This is the essence of the act-consequentialist debate. Many have argued in response to this view that the dietary decisions of a single individual will fail to have any real or immediate impact on the total number of animals that actually do suffer – the technical term being *causally impotent* (Garrett, 2007: 223); This utilitarian-based ‘ethical eater’ would see little positive outcome from his choice of diet and would therefore not maintain it, which would further reinforce the ‘slippery slope’ from above. Singer (1975: 168) argues that such ethical eaters taking part in the boycott (in his case, being vegetarian) should not be disheartened when the desired effect is not achieved – determination is key. Such a boycott is still of value because “we do achieve something by our individual acts, even if a boycott as a whole should not succeed” and that “Although we cannot identify any individual animals whom we have benefited by becoming vegetarian, we can assume that our diet has some impact on the number of animals raised in factory farms and slaughtered for food” (Schedler, 2005: 509).

2.3.1.4. Rawls

As a contractarian, Rawls is open to the criticism that his views can just be used to justify totalitarianism, where the relationship between man and animal is indeed totalitarian. There has been much debate around the offerings of Rawls to the discussion around animal ethics – in review of Rawls’s work, According to Abbey (2007, 2), Garner (2003) writes that this debate is unfinished and flawed at times and that “we should probably look elsewhere in a search for the most appropriate ideological location for animal protection” (Garner, 2003: 3, 20). Rawls (1971: 505) sees animals as being morally inferior and thus excludes them from the realm of justice (this is fundamental to a Rawlsian society) because of the centrality of humans in society, in that human beings have the ability to know what is good and can act in a rational sense accordingly and that they have potential to act on the laws of justice¹⁶ (Abbey, 2007: 2). Animals can therefore not claim humane treatment as a right. Since animals are excluded from the concept of the social contract, there is no need to consider them explicitly, and the way in which they are treated in society is dependent on individuals’ interest - in addition to this, theory dictates that the free choice of individuals’ should not be removed, and as a result of that, according to Garner (2003: 14), animal welfare becomes not an issue around moral obligation but rather one of personal preference – there is no literature to dictate that animal cruelty must be prevented (Abbey, 2007: 3).

Rawls might not prescribe a theory to prevent cruelty to animals but he does not licence people to treat animals in a cruel manner, and he realises that his justice theory is conflicted in its fairness to animals (Abbey, 2007: 5), in that he states that it: “fails to embrace all moral

¹⁶ “The status of the natural world and our proper relation to it is not a constitutional essential or a basic question of justice” (Rawls, 1993: 246). The Rawlsian concept of the veil of ignorance questions the morality of the feedlot farming scenario. Such a ‘device’ allows for rational individuals to think about the kind of society they would ideally like to be a part of, and when animals are deemed to be a part of such a place, some humans would be content with (after the veil of ignorance if lifted) being a spoilt domestic pet in a household, but almost all human beings would not want to be an egg-laying hen in a battery cage (Abbey, 2007: 5).

relationships, since it would seem to include only our relations with other persons and to leave out of account how we are to conduct ourselves toward animals and the rest of nature” (Rawls, 1971: 17). Resultantly, animals might not form part of the human sphere of justice, but form part of the human realm or morality. According to Abbey (2007: 6), it is simplified: “we are not required to give strict justice...it does not follow that there are no requirements at all in regard to them....Certainly it is wrong to be cruel to animals...The capacity for feelings of pleasure and pain and for the forms of life of which animals are capable clearly impose duties of compassion and humanity in their case” (Rawls, 1971: 512). In this regard, animal sociability and sentience are recognised as parallel to that of the modern Utilitarian. In doing so, there is an acknowledgement that justice is just one part of morality, and that a broader, all-encompassing theory is required that is not solely contingent on rights (Abbey, 2007: 9).

2.3.1.5. Conclusion

Much of the Utilitarian perspective is based on the principle that animals are capable of experiencing pleasure and pain. This notion has been strengthened by more recent scientific evidence showing that numerous species of animals are able to memorise and predict. Fraser (2000) does suggest, however that “both empirical knowledge from animal scientists and ethical reflection by philosophers are necessary to adequately address issues concerning our treatment of animals” (Bennett *et al.*, 2002: 189). Furthermore, Abbey (2007: 16) argues that there should be a platform to acknowledge human ethics, culture and tradition towards animals in a non-rights based manner. The belief in and promotion of animal compassion and minimal animal suffering should not necessarily be forced into a dialogue about rights – in doing so society might start to think about animal welfare and our obligations towards animals in a different light. Essentially, there is no need for a tradeoff between human beliefs (which will always take preference in a modern society of human narcissism) and animal well-being in that, according to Casal (2003: 22), “what we should celebrate, and struggle for, is the existence of practices that are both diverse and good, not a varied collection of cruelties and crimes” (Abbey, 2007: 16).

2.3.2. Social Implications

Although large-scale intensive farming does result in more accessible, cheaper animal products (increased efficiency with little regulation, resulting in higher profits), it also has numerous external costs attached to the production process, which are transferred to the environment, the farm workers, the public and future generations (Lawrence and Walker, 2004: 174). This true social cost is not absorbed by the industry and therefore not included in the market price of the products.

The concentrated feedlot system has implications for the environment: “Irreplaceable fossil aquifers are being drawn down for irrigation of feed crops; pesticides and fertilizers used to grow animal feed contaminate water and soil; and ocean fisheries are being depleted to produce

feed for factory farmed poultry, pork and fish” (Lawrence and Walker, 2004: 178)¹⁷. Some heavy metals and antibiotics from feed pollute water when manure containing these substances, as well as high concentrations of phosphorus and nitrogen, is disposed of inappropriately. Farmers are often unaware of the exact composition of the food and therefore of the manure. There has been growing public concern over the use of antibiotics as growth promoters – in the US, over 70% of all produced antibiotics are used in the animal feeding process and the average chicken now grows twice the size in half the time span (Lawrence and Walker, 2004: 179, 180).

In addition to the environmental concerns, feedlots have numerous social consequences. “The industry has not given adequate attention to worker safety, public health, and animal welfare concerns, despite the impact that these systems may potentially have on the public’s health. The health of workers is affected by air pollution, repetitive motion diseases, industrial accidents, and direct contact with ill or diseased animals. Those living near the feeding lots and...facilities may be exposed to air pollution and may suffer psychological stress associated with odors, noise pollution, and other factors” (Lawrence and Walker, 2004: 175). Considerable vertical integration in the production process¹⁸ has also been a characteristic of the beef, pork and poultry industry in the US, where this has had far-reaching implications for the local communities¹⁹ as well as the smaller family farms the large corporations have displaced (or that are forced to sign a supply contract with these large corporations, also with negative consequences). Lawrence and Walker (2004: 176) quote Broadway and Stull (2003: 149) and argue that “As farm size increases, so does rural poverty.” This is because as feedlot farms are attracted to local communities, there is an influx of workers into the areas - this places strain on existing infrastructure and typically occurs without consultation with the locals because these externalities are so high, several United States communities have proceeded to ‘block off’ the entry of these farms into their localities (Lawrence and Walker, 2004: 174).

It is also argued that meat consumption, and the continuous increase in demand for it, is one of the drivers of the factory farming system. Broadway and Stull debate whether animal fat and protein in these quantities are actually essential to a human diet²⁰ – the ‘fast food’ phenomenon has led to a serious obesity epidemic in the US and many developing countries are following the same trend (Lawrence and Walker, 2004: 179). In addition to health concerns, the system is threatening food security by putting pressure on grain production – essentially, it is a very inefficient way to get calories into people’s diets. Instead of consuming grain protein directly, people are demanding even more of it through the demand for animal products (grain forms the main component of feed – here people consume grain indirectly). As an example, it takes 7kg of grain to produce only 1kg of beef (Lawrence and Walker, 2004: 181).

¹⁷ Lawrence and Walker reviewed a book called *Slaughterhouse Blues*: Stull, D.D. and Broadway, M.J., 2003. *Slaughterhouse Blues: The Meat and Poultry Industry in North America*. Belmont, CA: Thomson/Wadsworth.

¹⁸ In the example of chicken as a meat source, some corporations have undertaken some or all of the following processes in order to minimise costs: hatch chickens, growing them, processing and packing the meat and then delivering them to the grocers (Lawrence and Walker, 2004: 175).

¹⁹ It is theorised that these concentrated animal feeding operations are attracted into specific local areas for the following reasons: tax incentives, lack of environmental directives, the availability of sufficient infrastructure and the connectivity/proximity to abattoirs and the marketplace, usually in areas where the population is comprised of poorer groups with limited political and social clout (Lawrence & Walker, 2004: 177).

²⁰ Meat consumption is at 220 pounds per capita, almost double the required amount (Lawrence & Walker, 2004: 181).

Even if individuals are not concerned about the poor conditions of the animals in this concentrated feeding system, the environmental and public concerns are obvious and a direct threat to economic, social and environmental sustainability. Indeed, this is not only a microeconomics concern about commercial agriculture animals but spreads into macroeconomics one involving intra- and inter-generational equity.

2.3.3. The Animal Welfare Kuznets Curve

In light of its progressive animal welfare legislation (as discussed in Section 2.4 below), the European Union has also been working alongside developing countries to make animal welfare integral and sustainable within the agricultural production systems of the poorer nations. “Those most stricken by poverty are largely located in rural areas, where extensive livestock production is practiced. Intensive farming can have a number of detrimental effects on small farming communities and can negatively affect the environment. Protecting alternative, welfare-friendly systems of production may be a more sustainable option for developing countries” (Bonafos *et al.*, 2010: 28). In my opinion, it may be beneficial to the low income subsistence rural farmers and ‘vent for surplus’ commercial farmers to adopt higher animal welfare agriculture practices – such collaboration could give these producers, whose outputs often sell at a discount, an edge in the free range and organic niche markets. Their extensive stock-rearing is more humanitarian (socially, economically and environmentally) compared to the intensive farming alternative, and with market recognition could therefore be more sustainable. For the few affluent commercial farmers that supply most of the product market, this transition would be more of a challenge and, if done inappropriately, could be economically detrimental.

It will become obvious in subsequent sections that surveys and Willingness-To-Pay (WTP) studies around animal welfare have only been conducted in developed nations. This could be taken as evidence that an Animal Welfare Kuznets Curve (AWKC) exists – it is only the relatively wealthy countries that are concerned with the welfare of animals, or rather, that have allocated funds to its study. Also, in addition to observing trends between different countries, it can be anticipated that wealthier individuals are better educated and more aware of animal welfare.

The concept of the AWKC has been based on the environmental welfare curve; where a relationship between income per capita (x-axis) and a number of environmental pollutant emissions (environmental degradation on the y-axis) have been plotted to be an inverted u-shaped curve. It is a recent hypothesis by Frank (2008) that the AWKC depicts a relationship between harm to animals and income per capita (GDP). The mistreatment of animals will rise initially as a result of an increase in GDP, which will be followed by an improvement in their treatment after a certain maximum value (here economic development and improved animal welfare would go hand-in-hand beyond a certain point). This improvement in welfare is expected as a result of human intervention. The existence of such a curve suggests that economic growth can be coupled with animal wellbeing improvement (Frank, 2008: 478).

According to Frank (2008: 478-479), Nibert (2002) offers a perspective focusing on western

civilization, where the suffering and oppression of animals on a large scale is intricately coupled with the ‘structure of social arrangements’, the capitalist system of economic gain and growth – an implication that the AWKC does not exist (welfare will decline further as the economy grows). Nibert explains in an interview²¹: “Such practices occur because they are profitable. Only a profound change in the economic and cultural system will substantially reduce these outrageous policies and practices. This is not at all likely to happen within the capitalist system which depends on oppression for its survival. Thus, advocates for other animals need to continue to increase their sensitivity to, and cooperation with, liberation movements of all types that ultimately are working to bring about a real democratic, egalitarian and environmentally sustainable social order.” Frank (2008: 489) agrees with Nibert that if the AWKC should be in fact inverted and not just upward sloping, human intervention, possibly in the form of public pressure and policy modification, will be a key factor, championed by those persons who feel most passionately about animal welfare.

The AWKC hypothesis is intricately linked to the Environmental Kuznets Curve (EKC), and is based on the premise that policies that endorse environmental biodiversity in terms of pollution reduction and habitat rehabilitation, to name two, will frequently parallel those that lead to the progression of animal welfare. Frank (2008: 479) admits that this is not always the case - a case in point being the correlation between meat consumption and the emission of greenhouse gasses (EKC).

Arrow *et al.* (2005) argue that as an economy moves out of an agrarian and into an industrial structure, there will be an increase in pollution, and that upon further economic development, and a change of the economic composition into a tertiary-sector, or service-based economy, pollution is expected to start to lessen again (Frank, 2008: 479). There is a suggestion that the case for animal welfare might be similar; even though “animals still have many commercial uses, in economies below a certain level of economic development, animals play a much more vital role...source of transportation, a vital piece of ‘equipment’ for farming land, and even a source of power” (Frank, 2008: 479). This view is shared by Bonafos *et al.* (2010: 26).

Whereas technological advancement as a result of economic and national income growth has always been a positive aspect for environmental improvement²², it has been two-sided for animal welfare and the net effects will depend largely on the function of the animal: “technological changes, such as in vitro laboratory techniques and the technology to create meat substitutes have helped animal welfare, other technological changes such as intensive animal agriculture techniques and genetic modification of laboratory animals may have diminished animal welfare” (Frank, 2008: 479). Increasingly, a number of nutritionally equivalent products have been made available to the public, that have the ability to provide individuals with cheaper, animal- and environmentally-friendly alternatives, but are met with some level of animosity because of “existing public taste preferences for animal flesh” (Frank, 2008: 484). This may be ‘solved’ by the initiative whereby scientists are now looking to grow

²¹ Available online at <http://www.mercyforanimals.org/6outrage12.asp>.

²² This statement by Frank seems to disprove the EKC hypothesis, especially in light of the early impact of the industrial revolution. This historic time period was associated with rapid growth in technology but also widespread environmental degradation.

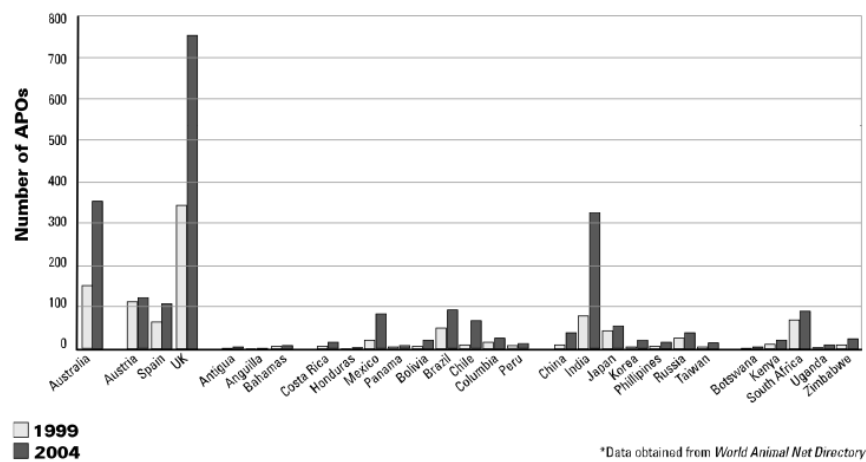
animal tissue for consumption purposes within laboratories but this may still find potential problems in the existing public tastes and preferences for naturally-reared meat and the fact that this process raises additional ethical issues in itself. The resultant product might also be relatively expensive because it is technologically sophisticated and if ‘grown’ in small quantities, will not be able to satisfy total consumer demand for meat.

In support of the EKC, numerous studies have confirmed the more popular supposition that the higher the income level of the individual, the greater the concern shown for the environment. Nonetheless, some literature has shown that the hypothesis is contingent on the indicator (proxy for environmental quality) used (e.g. SO₂ supports the EKC, but CO₂ does not). Environmental protection and animal wellbeing will have an income elasticity that is larger than one, and thus, may be considered as a luxury good (compared to the income elasticity for other food products which is less than one) (Frank, 2008: 479). Frank (2008: 480) also reports on Maslow’s Theory (1968) that “physiological needs are lowest on the hierarchy, and must be satisfied before people focus on higher-level needs...high enough per capita income to satisfy basic needs such as food and shelter are necessary before people consider the longer-term security of their environment or altruistic concerns”. Very much related to this is Farm Foundation’s (2006: 133) suggestion that consumer expectations with regard to the food products they consume will change as their incomes rise. Indeed, Olesen (2006) writes that “Poverty and isolation are the main reasons animals in China are not treated as well as they are in some other countries... We don't have a tradition to treat animals as equal living creatures. In rural areas, many people don't know animal rights... Animals are just seen as labour, a family-owned property they can use any way they want. They think the animals' existence is just for making money.” The South African scenario it might be difficult to observe welfare and income on an aggregate level because sizeable disparities exist in terms of this – it might be more helpful to observe the welfare behaviour of the minority (high income) cohort and contrast it to that of the (low income) majority. Essentially, animals play very different roles in society for the individuals in these two groups, especially when considering animals which are used for subsistence farming or ceremonial purposes.

A higher level of income per person within a country or region will result in the establishment and presence of a greater number of animal protection organisations. These organisations will then have the ability to run campaigns for the welfare of animals and create public awareness in an effort to shift opinions and stimulate debate and potentially increasing the amount of legislation concerning animal welfare issues (Trent *et al.*, 2005). This is reinforced by a finding of Frank (2008: 487) that in the United States, “states that had felony-level animal cruelty statutes had a significantly higher per capita income on average than states that had no such statute”. Trent *et al.* (2005: 76) also found that the number of animal protection agencies existing in countries increases over time as those countries become more developed. Figure 2.1, below, contrasts the number of animal protection institutions over a period of 5 years, between 1999 and 2004. The dissimilarity between developed (especially Australia and the UK) and developing countries becomes very noticeable here – with the more recent exception of India, with an impressive growth to 326 organisations in 2004. Trent *et al.* (2005: 74), however, highlight that despite the large numbers of organisations, India’s booming population numbers means that the protection of animals takes a backseat to poverty issues - the

sophisticated laws are rarely enforced. This is the case for most African and Asian countries. In 2004, South Africa had 90 animal protection agencies, setting the benchmark for African countries (which have comparatively very small numbers of organisations, with limited efficacy) and is in line with the number of organisations present in Mexico, Chile and Brasil.

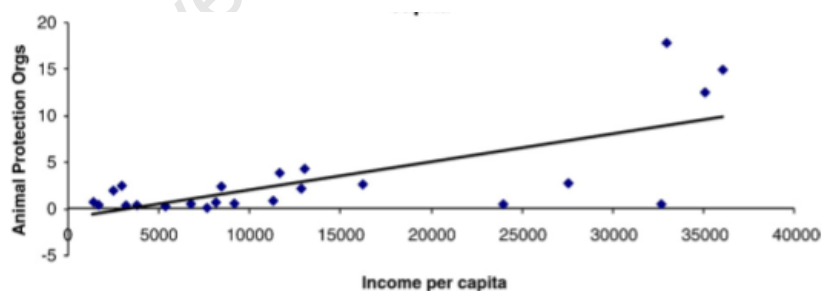
Figure 2.1: Increase in Animal Protection Agencies, 1999-2004



Source: Trent *et al.* (2005: 76).

Figure 2.2, below, indicates a statistically significant, positive relationship between a country's income and the incidence of the above mentioned organisations²³ – as income per capita rises over time; people become more aware of animal welfare, leading to a rise in the number of animal protection agencies. Potentially, the problem here would be that these agencies are mostly (especially in the South African example) non-profit organisations and resultantly, do not have sufficient capacity to deal with all the relevant animal welfare issues.

Figure 2.2: Animal Protection Organisations per million People and Income per Capita



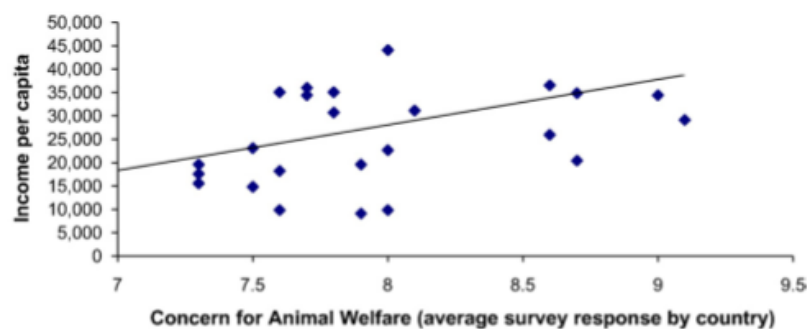
Source: Frank (2008: 488).

In terms of farm animals, it is relatively simple to identify the upward sloping section of the possible AWKC by observing United States meat consumption data. Traditionally, a rise in the consumption of meat has been associated with a rise in income, and so as time has passed, and

²³ Interestingly, the number of organisations within Zimbabwe has increased significantly between the two time periods — from a very low base number, but considering their poor economic performance, the result seems to defy the AWKC theory. This leads to the question about whether economic factors are the only drivers to the number of organisations and thus, the level of concern for animal welfare.

individuals' income has risen, total meat consumption has increased alongside it (total animals slaughtered per capita has just about doubled since 1970). A point in the data where total consumption starts to decrease is not present for the US. A turning point within the data may, however, be caused by evidence that there is a growing concern for animals, but this is in fact more prevalent in the European nations (Frank, 2008: 484). In addition to this, it can be seen that there is a positive correlation between the concern for farm animal welfare and income level. Figure 2.3, below, indicates that the higher the level of income per capita within a country, the higher the level of concern. Other studies that have measured people's willingness to pay for higher welfare products have had findings consistent with this (Bennett, 1997). In addition, there is expected to be a substantial institutional and social 'inertia' in consumer preferences for food, implying that the turning point in meat consumption may occur in the future, especially in light of the fact that there is more recently an increasing number of individuals looking for substitutes to factory farmed products, such as free range and organic alternatives, as well as an increase in the number of vegetarians and vegans, specifically within the more developed nations (Frank, 2008: 484).

Figure 2.3: Income vs. Animal Welfare Concern Level (European Countries)



Source: Frank (2008: 483) as extracted from Eurobarometer (2007).

2.3.4. Consumer and Producer Response to the Ethical Approach

The utilitarian principle is central to the economic model of consumer behaviour and the effect of information about their purchases to the welfare derived by consumers (Lancaster, 1966: 134)²⁴. It is assumed that individuals make consumption decisions in order to maximise their utility – there is a comparison between the satisfaction they are expected to derive from consumption and the disutility they experience from paying for that product on the market (Bennett, 1997 cited in Mayfield *et al.*, 2007: 60). By informing individuals about animal welfare conditions, consumption decisions are made on varying perceptions - animal welfare is seen as a type of 'externality' and can take various forms, depending on the perceptions of individuals (see Footnote 24 - Lancaster).

²⁴ Kevin Lancaster (1966), who reinvented the theory of consumer behaviour, initiated the concept that goods are consumed because they hold certain characteristics, where these characteristics themselves would be associated with consumer utility and preference. These characteristics yield differing utilities to consumers – they are subjective and will depend on the preferences of consumers. In making this theory relevant to this thesis, the level of animal welfare inherent in the product will can be seen as being a characteristic of the product, where some consumers will experience a certain measure of satisfaction as a result of this characteristic. Welfare-conscious consumers will experience disutility from eating a battery egg because of the low animal welfare characteristic of the product.

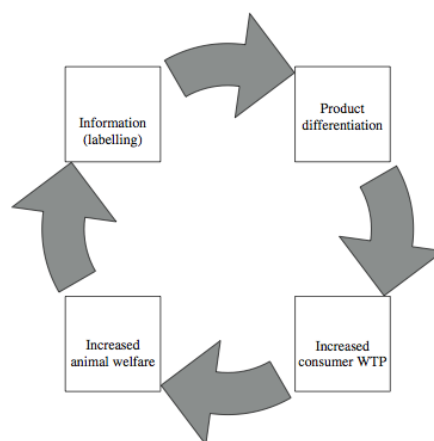
The consumption benefit, or utility measure, is done from the viewpoint of people and not directly from that of animals – animal welfare carries weight in society solely because this affects the wellbeing of humans themselves (animal welfare as an extension of human welfare). According to Bennett *et al.* (2002: 189), McInerney (1993) asserts that “animal welfare is therefore just a subset of man’s perception of his own welfare”, and humans can experience ‘cognitive dissonance’, or disutility (reduction in satisfaction and human welfare reduction) if awareness of conditions shows that there is a possibility that the animals may suffer. This is the essence of an adaptation of the Smithian theory of human empathy, as discussed previously. This disutility may outweigh the benefits of consuming these animal products, and so individuals may decide to become vegetarians or vegans. Mayfield *et al.* (2007: 60) cite a variety of sources (Vegetarian Society 2006; Szatek 2003; Miele *et al.* 2004) for estimates indicating that 5-7%, 3-4% and about 8% of adults are vegetarian or vegan in the UK, Sweden and Italy, respectively.

The key utilitarian argument here is to provide consumers with appropriate information about the conditions in which animals find themselves – it is my opinion that a consumer-imposed ‘demand pull’ will be created, which will develop animal welfare and have an effect on related legislation. By increasing the awareness of individuals who may be completely unaware of the production methods behind the animal products, it is assumed that a sense of disutility will be engendered in the consumer, and therefore redo their satisfaction in consuming lower animal welfare products. This may not be immediately desirable in terms of human utilitarianism,²⁵ but in the long run consumers will have the ability to improve their consumption welfare by requesting higher animal welfare products voluntarily. That said, this theoretical argument is only fully effective subject to a number of principles²⁶ (Mayfield *et al.*, 2007: 60). Figure 2.4, overleaf, depicts the basic concept of reinforcing, or promoting, product differentiation, and how such an initiative would feed through and result in improved farm animal welfare.

²⁵ Interestingly, a recent article from ABC Rural Australia shows this ‘information exposure’ has the potential to effect sales – after Australian consumers were ‘turned off’ while being exposed to ‘graphic footage of cruel practices’ used in abattoirs in Indonesia, red meat sales of an Australian meat producer, who supplies his products to two metropolitan areas, decreased by 15-20%. The spokesperson of Radford Meats claimed that even though Australian meat processors do not make use of such cruel methods “It has affected lamb sales as much as it has with beef,” and that “People, even though they eat the product, they don’t want to know where it comes from and when they see scenes like we saw a week or so ago, it’s horrific and it just turns people off eating red meat...” (“Mixed messages on red meat sales”: 10 June 2011, Available: <http://www.abc.net.au/rural/news/content/201106/s3240584.htm>). In another case, the release of the movie ‘The End of the Line’ contributed greatly to the number of British consumers now making sustainable fish purchasing decisions – Waitrose, who was a sponsor of the film, noted that their fish sales increased notably after its release (The Green Times, 2011).

²⁶ The first of these assumptions as highlighted by Mayfield *et al.* (2008: 60) is that the information made available to consumers is indeed deemed appropriate, and secondly, that the workings of the ‘market mechanism’ is sufficient to respond to the consumer demand pull. Here, Coase’s (1984) transaction cost theory is referred to, in that consumers will be less likely to purchase ‘animal friendly’ products if the cost of obtaining these products is high. This entails making these products readily available in all points of sales so that individuals will spend minimum time searching for them.

Figure 2.4: The Ideal Cycle of Information Inducing Good Animal Welfare



Source: Napolitano *et al.* (2010: 541).

Generally, developed country's consumers do not respond well to an animal product in which the animals suffer from poor welfare – as seen above, such a perception can have substantial effects on product sales. Bonafos *et al.* (2010: 28) assert that: firstly, in the consumer's mind low animal welfare is correlated with or equates to lower quality, implying that consuming animal products where the animals have been treated in a better manner makes for a healthier and tastier alternative. Implicitly, consumers would think that animal products containing steroids, antibiotics and the like, to protect the animals against their conditions of confinement, would be worse for the consumer than those animals that exist in free range conditions. Secondly, the animal's welfare is seen as an implicit characteristic of the good that they are purchasing, where most consumers may not explicitly consider animal wellbeing along with the physical product characteristics such as price and packaging, but will assume that the animal has been treated 'adequately' (Bonafos *et al.*, 2010: 28). Thus, individuals within the EU have become increasingly responsive to the product's method of production. According to Bonafos *et al.* (2010: 28), "Ethical consumption has become the new trend of today's consumer, and retailers seek this added value" and can create substantial potential for product marketing and labelling. Product differentiation in terms of market standards has already occurred for eggs where the different modes of production are subject to particular labelling, so much so that "alternatives to cages have been successful in certain EU member states and represent a substantial housing method for the current production of fresh eggs" (Bonafos *et al.*, 2010: 28).

As a result of consumer demand, "major submarkets are developing for meat and animal food products from animals that are raised under elevated welfare standards" (Frank, 2008: 483) and numerous 'animal friendly' producer schemes have been supported by leading grocers and fast food chains (with animal welfare committees), such as the RSPCA Freedom Food Scheme and Tesco (Bennett, 2003: 85). The Animal Welfare Institute has developed an 'Animal Welfare Approved' standard label and Whole Foods Market has implemented an in-store 'Animal Compassionate' standard (Frank, 2008: 483). The UK Marks and Spencer group have stopped selling battery cage eggs. A former UK Food Minister affirmed that, "welfare friendliness in

food production is of increasing importance to consumers and a positive selling point for producers" (Ministry of Agriculture, Fisheries and Food: MAFF, 1996).

As a result of this increase in public support over the recent years, various 'factory farming' methods have been banned. There has also been product development associated with higher animal welfare and willingness to pay a price premium, which is "indicative of people placing a value on farm animal welfare" (Burgess and Hutchinson, 2005: 36). Accordingly, this provides the argument that a collective social movement is in the forefront of changing legislation: The acknowledgment of the utilitarian stance on the welfare of animals has been reflected in the numerous changes that have been made to animal welfare legislation in more recent years, especially within the EU (Bennett *et al.*, 2002: 189). It is important to emphasise, however, that laws can be put in place for the sake of pleasing the public with no real attempt to implement and audit – translating into little to no change in welfare for animals, especially when in conflict with other governmental interests (Frank, 2008: 487). Bennett (1997: 281-282) reflects that when considering such aspects as political practicality, economic feasibility (benefits of higher farm animal welfare versus escalated production costs and a loss in trade and competitiveness) and ensuring the legislation will actually have the desired outcome, it is imperative that prior to implementing key legislation, policy makers have the support of the public in their decisions. In terms of the EU, Bonafos *et al.* (2010: 26-27) comments that, "beyond specific objectives, people have an ethical duty to take care of animals under their responsibility...legislation reflects the public's increasing emphasis on the ethical dimension of economic activities dealing with animals. The intervention of the...legislator is based on the assumption that, beyond specific policies, the public request for proper care of animals is sufficiently significant to affect the functioning of the internal market". This seems to suggest that legislation should be led by and (after implementation) supported by the public.

2.4. The Legislative Approach

In contrast to the situation where consumers lead legislators, several cases exist where legislators make decisions that the bulk of the public does not support. In most cases, legislation would need to lead public awareness; there would be an increase of legislative awareness by consumers.

Bonafos *et al.* (2010: 26) argues that the welfare of animals in European society is in fact a long-term trend, where legislation for the protection of animals has been in place for over three decades and it was mostly the non-governmental organisations who were concerned for the wellbeing of animals. It is only more recently that the industry itself and international organisations have begun to show interest. Specifically relevant to developed countries or the more affluent among the developing nations, the era of industrialisation has initiated a feeling of 'security and comfort' for many individuals (Bonafos *et al.*, 2010: 26). "Many serious infectious diseases have been controlled or eradicated, hunger is not an issue for most, potable water is usually widely available, and physical effort is a matter for leisure, not labor. In this context, people are also expected to provide appropriate living conditions for animals" (Bonafos *et al.*, 2010: 26).

Numerous surveys have been designed and conducted in a number of predominantly more developed nations in an attempt to encapsulate individuals' insights and opinions regarding farm animal welfare. Burgess and Hutchinson (2005: 36-37) report on the 2004 and 2005 Eurobarometers, public surveys that have been conducted in the EU in 25 member states, that "55 per cent of EU citizens believed that insufficient importance is given to animal welfare and protection within the agricultural policies of their countries (Eurobarometer, 2005) and that 88 per cent believe that agricultural policies should ensure that the wellbeing of farm animals is respected (Eurobarometer, 2004)". According to Bonafos *et al.* (2010: 26) in 2005, "82% of the respondents (average in the European Union) believe that they have a duty to protect animals, whatever the cost. In the same survey, 80% of the respondents indicated that they believed that improving animal welfare would result in improved animal health, 74% believed that products from these animals would be more ethically acceptable, and a majority believed that this would result in better food quality (58%) and food safety (57%)".

Bennett (2003: 85) highlights a survey conducted in 1995 by King, Harper and Henson (2001) that examined 2500 people's views on animal welfare within the EU in countries such as the UK, France, Germany, Ireland and Italy – 66% of respondents said that they had reduced their consumption of animal products because they were concerned about the treatment of the animals, and 60% claimed to purchase higher welfare products (free range or organic eggs as opposed to the battery variety), because the average respondent mentioned that they found the battery cage system 'somewhat unacceptable'. The study found that 72% of the respondents in the UK felt that the system is 'wrong'. Also cited in Bennett (2003) is another study that was conducted by Broome (1998) in Ireland: 33% of consumers cut down on their meat purchases because of animal welfare concerns, and in France, 83% of respondents found that welfare concerns affected meat purchases, and 70% of egg consumption was influenced by egg-laying hen welfare (Bennett, 2003: 85-86). In the United States of America, PETA (2002) highlight a survey that established that 90% of respondents were against the confinement of farm animals in the intensive farming schemes (Bennett, 2003: 85). It would be of interest to examine the socio-economic conditions of the individuals who completed these surveys, and consider whether they were a representative or biased sample – they would most probably have much the same profile as the more sophisticated South African minority consumer. The most controversial determinant of animal welfare in South Africa is contingent on socioeconomic and cultural factors, often associated with racial differences. The examination of the reaction of the various, distinct consumer groups (in light of cultural and religious differences) would be interesting should legislation banning battery cage hens be passed.

2.4.1. Leading Legislation

Legislation regarding animal welfare in South Africa is considered to be inadequate and out of date, and has been unsuccessful in keeping up with modern animal agricultural practices (South African Veterinary Foundation (SAVF), 2006). The care of animals is regulated by two Acts –

namely the Animals Protection Act²⁷ (Act 71 of 1962) and the Performing Animals Protection Act (Act 24 of 1935).

Regardless of its date, the Act does define animal cruelty, stating in Section 2 that “[a]ny person who: (a) overloads, overdrives, overrides, ill-treats, neglects, infuriates, tortures or maims or cruelly beats, kicks, goads or terrifies any animal; or (b) confines, chains, tethers or secures any animal unnecessarily or under such conditions or in such a manner or position as to cause that animal unnecessary suffering or in any place which affords inadequate space, ventilation, light, protection or shelter from heat, cold or weather; shall, subject to the provisions of this Act and any other law, be guilty of an offence.”

Quite clearly, then, were it not for the minimum standards prescribed by SAPA in their ‘Code of Practice’,²⁸ industry operators using a caged battery system would be subject to cruelty charges under this Act.

According to the SAVF (2006: 2), very little to no regulations under law exist and as a result, South African legislation is in need of review and reform. It is an on-going project of the organisation, together with the Department of Agriculture, to “produce the first ever comprehensive Manual of Animal Care and Use in Southern Africa”. The first stage of this project was planned for completion by the end of March 2008, and deals with the collating and formulation of important codes and standards applicable to the most urgent aspects of animal care and use, but has yet to be published. The second stage, due for completion by the end of 2009 (and also not yet available), is to produce and publish the manual.

The South African example can then be contrasted with the international example, more specifically, with the UK and EU as leading animal welfare legislators. Such legislation is more likely to ‘suit’ the small, higher income group of South Africa.

Over the last half-century in the United States a substantial number of animal welfare laws have been passed, including the Humane Slaughter Act of 1958; more recently a number of policies to protect farm animals from specific farming practices have been voted on in public ballots and have all been passed. Indeed, it was in 2002, 2006 and 2007 that Florida, Arizona and Oregon voters, respectively, banned the use of sow crates. Chicago has now banned the sale of *foie gras* and the state of California has banned its sale and production from the year 2012 (Frank, 2008: 483).

While the United States has made a fair commitment to the protection of its animals, it is really the European countries that have been more prompt in this regard – the EU has already passed laws that look to phase out the use of breeding sow stalls (already illegal in the UK and Sweden), confinement of veal calves and battery cage egg-laying hens (Frank, 2008: 484). Indeed, according to Bennett (1997: 281), it is as a result of imposing welfare criteria by means

²⁷ Interestingly, to indicate how out-dated these acts are, the Animals Protection Act even goes as far as to suggest whipping as a reasonable punishment for contravention. In addition to this, no distinction is made between animals that are domestic, for agricultural purposes, or for traditional/ceremonial purposes.

²⁸ These regulations will be discussed in the next chapter.

of institutionally-enforced legislation that the welfare of farm animals have been much improved – there is a great deal of legislation within the UK and the EU that deals with the wellbeing of animals. Essentially, it is within the past 35 years that the European Union has introduced a series of laws that were specifically designed for the protection of animals in general, including wild and zoo animals, animals kept for testing and scientific means, cats and dogs exploited for their fur, and the transport and slaughter of agricultural animals (Bonafos *et al.*, 2010: 26).

It was in 1996 that the UK proposed a procedure to the Treaty of Rome that would place a responsibility on all of the EU member states to “give full regard to animal welfare in matters relating to agriculture, transport, research and the Single Market” of the European Union²⁹ – this was proposed in confirmation of the 1992 Declaration (Declaration on the Protection of Animals within the Treaty of the European Union) to support and initiate an area-wide protection of animals and assisting legislation (Bennett, 1997: 281). It was only after 1997 when the Protocol on Animal Welfare by the Treaty of Amsterdam was fully approved that international organisations such as the EU had to consider seriously the welfare conditions of animals, especially when examining agricultural and environmental policies – that animals were no longer considered as mere possessions, but as ‘sentient’ beings who are capable of pleasure and pain (Burgess and Hutchinson, 2005: 36; Bonafos *et al.*, 2010: 27). According to Bonafos *et al.* (2010: 27) it is more recently (in 2009) that, in the Treaty of Lisbon, two important protocols for the protection of animals were pioneered and are very likely to have an effect on farm animal initiatives: “The protocol recognising animals as sentient beings became an article of the treaty, providing a stronger legal force for the requirements...” and also issues concerning animal welfare were ‘adopted under the so-called ‘ordinary procedure’, which means that the European Parliament (directly elected by citizens) and the Council of Europe will have equal footing in making decisions based on EU legislation.

In terms of legislation specifically about farm animals, activities are managed under the council Directive of 1998 concerning the protection of animals kept for farming which “requires member states to ensure that owners or keepers of animals take all reasonable steps to ensure the well-being of animals under their care and that those animals are not caused any unnecessary pain, suffering, or injury” (Bonafos *et al.*, 2010: 27). Each intensive farming endeavor has a specific directive under the abovementioned umbrella directive, and these

²⁹ The treaty explicitly states that “in formulating and implementing the Community’s agricultural, transport and internal market and research policies, the Community and Member States shall pay full regard to the welfare requirements of animals...” Certainly, animal welfare then becomes “just another economic commodity for which people have preferences relative to other things they choose to consume with their available income” (Bennett and Blaney, 2003: 86). Individuals who typically purchase free range eggs are predominantly concerned with the welfare of the egg-laying hen and the quality of the egg, whereas those who consume battery eggs consider mostly price and the egg size. In addition to this, those that do purchase cage eggs may well be concerned about hen welfare and would want to purchase free range, but lack adequate drive actually to do it (Bennett and Blaney, 2003: 86). This would be a prime example of the point where the state would have to intervene in terms of legislation, and reduce the choices open to consumers. As seen above, this has been done before in the more affluent countries, in terms of banning *foie gras* and the use of sow stalls. Legislators would lead such directives, in spite of the fact that the majority of the population would, at least initially, have conflicting opinions. Bennett (1997: 282) poses a few questions around animal welfare legislation, namely who are the people in society whose preferences (for improved welfare standards) are reflected by these laws and should this preference be permitted to constrain the consumption choices of other individuals in society.

explicitly state the minimum welfare requirements for each activity, such as space requirements and stocking densities. Progressively, within these directives, the more inhumane methods have been phased out, such as individual veal pens and breeding sow stalls. The conventional battery egg production system has come under a great deal of scrutiny, and in July 1999 in the EU, the Ministers of Agriculture decided to phase out this production system and to implement a ban from 1 January 2012. This has also been partly in response to powerful organisations such as the Eurogroup for Animal Welfare and Compassion in World Farming who have campaigned for and promoted this ban (Bennett and Blaney, 2003: 86).

Similarly, separate directives exist for the transport and slaughtering process. Bonafos *et al.* (2010: 27) also reports that the Common Agricultural Policy contains acts governing farm animal welfare standards, one of which requires that farmers adhere to certain minimum standards – this inspection and audit process is conducted by the European Commission's Food and Veterinary Office (FVO) across its 27 EU member states, and has the ability to take legal action should a member state recurrently breach standards as set out by legislation. Within the UK, the Farm Animal Welfare Council (FAWC) has been established as an 'expert advisory body' to "keep under review the welfare of farm animals...and to advise the Minister of Agriculture, Fisheries and Food and the Secretaries of State of Scotland and Wales of any legislative or other changes that may be necessary" (MAFF, 1979), but Bennett (1997: 282) emphasises that this council cannot disregard the political and economic implications of the proposed legislation – the "incorporation of legally-binding requirements to consider animal welfare implications of policy within the EU helps to ensure the political feasibility of measures to improve animal welfare and that adverse impacts of such measures on competitiveness and trade are minimized".

According to Bonafos *et al.* (2010: 28) the EU has been working in partnership (in terms of a number of seminars, bilateral agreements and cooperative forums) with a number of international institutions to enable the improvement of animal welfare across the globe, such as the WTO, FAO, New Zealand and Australia. This partnership has been especially important for the EU because of its major trading partners and it has 'actively supported' the development and implementation of animal welfare legislation throughout the organisation for animal health (OIE). In 2005 this organisation, consisting of 167 countries, approved slaughter and transport guidelines as proposed by the central body of representatives – according to Frank (2008: 483), it marked the first occasion that numerous countries agreed to certain standards in animal welfare. c)

2.5. The Economic Approach

Cost benefit analysis (CBA) is considered to be a 'corner stone' in the process of economic analysis – it is most helpful in establishing the size of the benefit that society would gain from the implementation of potential legislation, together with the entailed costs (Bennett *et al.*, 2002: 189). This methodology is clearly essential here in light of the social implications of the factory farming system, as discussed in Section 2.3.2: externalities exist; whereby the prices of factory farmed animal products do not reflect the true cost to society.

Asking individuals' WTP within the CBA method attempts to capture the monetary value of the societal benefits of the proposition - this is the same as measuring the satisfaction people would derive, which gives rise to utility. The bigger the net utility of the individual as a result of the intervention, the greater the benefit obtained. As a consequence, the CBA 'framework' can be said to make use of the utilitarian principle (Bennett *et al.*, 2002: 189). Cowen (2006 :39) asserts more specifically, economic ordinalism, where animals and the cause of animal welfare matters only insofar as humans care, and those that do care must have the ability and, obviously, the willingness to pay for the betterment of the animal. The classic problem of CBA is that it is rooted in classical welfare theory, as discussed previously. In my opinion, this takes as ideal the outcome that would follow in a world of universal perfect competition, as dictated by Smith, given the initial distribution of income and wealth. The utility of the poor therefore matters less than that of the rich. In this world animals therefore are equivalent to the absolutely destitute; their utility has no direct weight at all except through Smithian empathy.

According to Cowen (2006: 39), when looking to capture individuals' WTP a simple form of utilitarianism is used, namely economic ordinalism³⁰: "Under this ordinal standard we use only the information contained in (human) market demand curves. Animals therefore 'count' only insofar as there exists a willingness to pay or be paid for their welfare. Since the concept of willingness to pay is not well-defined for animals themselves, the standard Paretian framework of economics does not assign intrinsic value to animals per se. Instead animals are valued only insofar as human beings, who do have a well-defined willingness to pay (and be paid), care about those animals". It is also important then to determine the size of the benefits of implementing higher welfare schemes so as to prioritise which of these should be targeted in terms incentive provision (Burgess and Hutchinson, 2005: 42). Economic incentives to both consumers and producers alike could include subsidies and taxes.

2.5.1. Past Studies

Numerous studies have attempted to capture the real economic benefit that is derived from consuming higher welfare animal products and they form the basis to the self-conducted Consumer Study (Chapter 4) that forms an integral part of this thesis. A few studies were selected on the basis that they all make use of the WTP method and all include eggs within their studies. Their economic findings are reported here.

2.5.1.1. Burgess and Hutchison

Burgess and Hutchinson (2005) conducted a face-to-face survey study in 200 Northern Ireland households in order to evaluate whether people value farm animal welfare. The authors reveal that only the individual consumer or private benefit from welfare improvement can be captured by measuring the market prices and sales volume of higher welfare products with a price premium. External or total public benefits, however, are of interest for a public decision-

³⁰ A more comprehensive examination of animal welfare under utilitarianism would embrace the cardinal approach – this would involve allowing for animals to count in their own right (and not just as an extension of human interest) and then weighing this right against that of humans (Cowen, 2006: 39).

making or legislative approach scenario, and therefore need to be measured and considered. They are not captured within the market structure, thus often leading to the ‘under-provision’ of farm animal welfare advancement. Indeed, “the benefit derived from consuming high welfare animal produce and from the knowledge that all animals will be experiencing high welfare conditions... - by both those who consume animal products and those that chose for ethical reasons not to - possess the qualities of a public good” and will consequently fall outside of the market value of the product (Burgess and Hutchinson, 2005: 39). They therefore make use of contingent valuation to capture this benefit.

The authors used a ‘double-bounded dichotomous choice’ elicitation format, by asking each of the respondents the following question (“If the government could introduce ONLY the scheme to improve the welfare of ALL the (laying hens/chickens/pigs/dairy cows) would you be willing to pay A as an addition to your weekly food bill to ensure that only this scheme takes place?”) for each of the farming animal groups (Burgess and Hutchinson, 2005: 39). The results they elicited have been reproduced in the table below – they indicate the statistical means and 95% confidence intervals of each of the proposed welfare schemes. In terms of the intensive agricultural method used with laying hens, the current issue highlighted for the respondents is that “the size and construction of battery cages restricts the birds’ natural behaviour” with the proposed solution being a change to free range or barn housing systems. Burgess and Hutchinson (2005: 40) draw attention to the fact that the WTP for all of the schemes concurrently (£6.08) is much less than the sum of all the individual schemes (£10.57), and that this effect has been widely identified across a number of other studies. Because the laying hens scheme has the highest WTP (£2.95) it is identified as the one that respondents would favour for implementation.

The WTP for each of the schemes per respondent household have been extrapolated across the 530 000 households in Northern Ireland and have also been indicated in the table below. Burgess and Hutchinson (2005: 40) point out that the annual figures for each of the schemes may seem large but that they “represent not more than about five per cent of the weekly household food bill and only about 0.5 per cent of total consumer expenditure”.

Table 2.2: Estimated Values of Specified Welfare Schemes

	Weekly Household WTP (95% C.I.)	Annual Total Economic Value (£ million) for the 530,000 Households of Northern Ireland (95% C.I.)
Laying Hens	£2.95 (2.61-3.31)	£81.3 (71.9 – 91.2)
Dairy Cows	£2.89 (2.55-3.23)	£79.6 (70.3 – 89.0)
Broiler Chickens	£2.63 (2.33-2.94)	£72.5 (64.2 – 81.0)
Pigs	£2.10 (1.84-2.36)	£57.9 (50.7 – 65.0)
All Schemes	£6.08 (5.33 - 6.71)	£167.6 (146.9 – 184.9)

Source: Burgess and Hutchinson (2005: 40).

Numerous producers within the EU have, however, started to consider the full economic

benefits of welfare improvement (Bonafos *et al.*, 2010: 28) and according to the European Commission, the costs can be ‘offset’ by a number of aspects associated with a higher welfare scheme, such as lower animal mortality and morbidity rates, less carcass waste as well as a number of environmental benefits such as a decrease in the emission of ammonia and methane (Burgess and Hutchinson 2005: 41-42).

In terms of a CBA study and comparing the economic costs and benefits (conservatively the lower bound 95% CI) of implementing welfare improvement systems, positive net benefits were obtained for all of the schemes and thus they are all considered economically efficient (Pareto-improvements³¹). “The programme for improving the welfare of the laying hens produced substantially the largest net benefit (£58.7 compared to the next highest £45.2), and so would be implemented first on the grounds of economic efficiency” (Burgess and Hutchinson, 2005: 41).

Burgess and Hutchinson (2005: 40) emphasise that the schemes for the improvement of welfare farm animals through legislation will have a cost attached to them– direct and indirect. This needs to be paid for by someone in the economy whether it be the producers, consumers or taxpayers. Direct costs are those that are experienced as a result of the change in immediate production process (to meet the higher welfare standards), such as labour, building costs because of additional space requirements and a number of variable costs such as feed. These are often partly passed on to the consumers, and can restrict consumption decisions. Those with the lowest incomes, who spend a greater proportion of their income on food, are affected the most. The direct costs of implementing the studied systems are given in Table 2.3, below:

Table 2.3: Annual Costs Incurred in Implementing the Welfare Schemes

	Building Costs (annualized)	Variable Costs	Labour Costs	Total
Laying Hens	Buildings + Land = £4,762,500	Feed etc. = £2,450,000	Labour = £6,029,100	= £13.2 million
Dairy Cows	Buildings = £15,510,000	Straw = £27,000,000	-	= £42.5 million
Chickens	Buildings = £4,410,000	Feed etc = £7,056,000	Labour = £7,484,400	= £19 million
Pigs	Buildings = £12,780,000	Straw = £18,000,000	-	= £30.8 million

Source: Burgess and Hutchinson (2005: 41) quantified by means of the Farm Management Pocketbook, (Nix, 2000).

The indirect costs consider that international trade exists and that these welfare improvement schemes could “reduce the competitiveness of domestic agricultural producers, potentially reducing exports and increasing imports” (Burgess and Hutchinson, 2005: 41). According to Burgess and Hutchinson (2005: 41), a study by Jolly (1998) shows that this indirect cost can be significant, where a direct cost increase of 17 per cent as a result of reduced stocking rates of

³¹ When considering the merits of a policy, one of the criteria of welfare economics is whether gainers can compensate losers. In this case, gainers are those who wish to see the legislation and whose willingness to pay is greater than the market price they would have to pay for non- cage eggs. Losers include those who do not want the legislation but have to pay extra for eggs anyway if the legislation is implemented (Bennett, 1997: 285).

broiler chickens will cause a reduction in EU poultry exports by 70 per cent. Regarding farm animal welfare policy, Bonafos *et al.* (2010: 27-28) suggests that many industry players have been relatively hostile to legislation that improves farm animal wellbeing since it has been widely regarded as a threat to their competitiveness. Bennett (1997: 286) notes that the continued import of actual battery eggs or products that contain them will also undermine the competitiveness of the local egg industry and the aim to deter consumers from supporting the production of battery eggs, whether as a stand-alone product or as an ingredient in others. Such a loss in competition will only exist on the assumption that other countries will not impose similar regulations – if this was not the case, and there had to be a world-wide improvement in welfare, relative prices would not be profoundly affected.

2.5.1.2. Bennett

A study conducted by Bennett over 2000 British households looked to “assess people's preferences...regarding legislation to ban the use of battery cages in egg production in the EU by eliciting their willingness to pay (WTP) to support the proposed legislation” (Bennett, 1997: 282). The questionnaire was sent to 2000 households in the UK and reflected the socio-economic distribution of the population, and contained “1) Questions about the extent to which people were concerned about farm animal welfare; 2) People's support for legislation to phase out the use of cages in egg production in the EU by 2005, and their WTP (in terms of higher egg prices or tax increases) to support the legislation; 3) The reasoning behind their responses to WTP questions; and, 4) Personal details about respondents such as their occupation, income, age etc.” The WTP questions (as part of a CVM study) asked within this survey also made use of the ‘double-bounded dichotomous choice’ format,³² and the response rate was noted at 30% (591 completed the questionnaire).

The following results were noted in Bennett (1997: 283):

- (1) 41% said that they were ‘very concerned’ about the fact that farm animals get mistreated in the food production process, 45% were ‘somewhat concerned’ about the farm animal mistreatment, whereas only 1% were ‘not concerned at all’.
- (2) 61% stated that they chose not to purchase certain animal products because they were concerned about the treatment of the animals involved in the production of that particular product.
- (3) 58% of respondents stated that battery egg production systems were ‘very unacceptable’.

³² “This involved asking people whether they would be willing to pay a specified amount (as an increase in current egg prices or an increase in taxes) and they could answer “yes”, “no” or “no opinion”. They were then asked if they would be willing to pay a specified higher amount if they had answered “yes” to the first question or a specified lower amount if they had answered “no” to the first question” (Bennett, 1997: 282). He mentions that according to Arrow *et al.* (1993) the dichotomous choice format is recommended for surveys such as this one.

(4) Over 50% of individuals noted that there was at least one aspect of farm animal treatment that is of concern to them, ranging from living conditions and medicines administered to transport and slaughtering conditions that the animals experience.

Approximately 79% of all respondents stated that they would be in support of the legislation put forward by the questionnaire. The distribution of people's willingness to pay to support such legislation can be observed in the table below. The mean WTP noted (as an extra to be paid above the average £1.40 for 12) is £0.43, where the household expenditure for eggs would then increase by £0.32 per week,³³ or £17 per year. There was a mean WTP of £5.50 to address the welfare issues that people had with all farm animals (Bennett and Blaney, 2003: 92).

Table 2.4: WTP to Support Legislation to Ban Battery Cages (increase on current egg price in pence per dozen eggs)

Willingness to pay	% of respondents ^a
0	14
>0–20	10
>20–40	32
>40–60	18
>60–80	11
>80–100	7
>100–120	6
>120	3
Mean wtp ^b	£0.43

Source: Bennett (1997: 283).

In examining the reasoning behind the WTP responses, a few 'attitude statements' were posed where respondents were asked to rate them 1 (not true to their feelings) to 10 (very true to their feelings) and the results are displayed in the table below. 87% of all respondents answered the 'debriefing' questions:

(1) 60% of respondents felt that legislation is necessary in this case.

(2) The negative externality argument³⁴ is supported here in that 32% of respondents noted that it was very true to their feelings (and 72% gave a score of 5 and above) that their WTP "reflected the satisfaction they would get from knowing that other people would not be reducing hen welfare by consuming battery eggs" (Bennett, 1997: 284).

'Warm glow' and 'whole part' biases were present in the responses when statements such as "WTP is 'like a charitable donation'" and that it is 'for the welfare of all animals'. Adjustments were made, and as a result, WTP decreased to £0.38 to account for 'warm glow' and £0.31 for whole-part bias.

³³ This was calculated by multiplying the mean WTP by 9 eggs, which is the weekly average household consumption of eggs.

³⁴ Bennett makes the analogy with 'passive smoking' where the consumption decisions of some individuals (those who smoke in public) affect those who do not (smoke inhalation). Because negative externalities exist, legislation or some form of government intervention is deemed necessary.

Table 2.5: Summary of Responses to the Attitude Statements (% of respondents)

Attitude statement	Score					N
	1-2	3-4	5-6	7-8	9-10	
WTP is like a charitable donation	28	9	22	15	26	534
WTP is for welfare generally	12	6	15	22	46	542
Legislation is necessary	6	4	8	16	66	548
WTP for personal satisfaction	19	4	18	15	44	525
WTP to prevent others buying	23	5	21	15	37	504

^a Respondents were asked to score from 1 (not at all true of my feelings) to 10 (very true of my feelings). Percentages relate to those responding to the questions and may not add to 100% due to rounding. N: number of respondents answering each question (out of a total of 591 respondents).

Source: Bennett and Blaney (2003: 88).

Bennett (1997: 284), in response to a 70% non-response rate, points out that this study “suffers from the limitation, often found in surveys of public opinion, of a relatively low response rate... These people may or may not be concerned about animal welfare and may or may not have a willingness to pay to support the legislation”. Sending follow-up mails or making use of interviewers could have improved the response rate. Those individuals that feel strongly about the subject are more likely to complete the survey, and are more likely to have a higher WTP and already purchase free range eggs. If an adjustment to the WTP is made so that all non-responses have a default response WTP of 0 (zero), the mean WTP falls from £0.43 to £0.13.

Strong correlations were found between the degree of concern people have about animal welfare, their consumption activities, their household income and their stated WTP. Bennett and Blaney (2003: 92) raise concerns about the validity of some portions of their data – the percentage of survey respondents who claimed to purchase free range eggs (75%) is not in line with the fact that only 20% of eggs that are bought in typical retailers within the UK are in fact free range. This reinforces the need for industry-standard labelling (Bennett and Blaney, 2003: 92).

Bennett (1997: 285) notes that the benefits of policy implementation should always outweigh the costs thereof, and highlights an increase in production cost of 8-30%, or 4-15 pence extra per dozen eggs. Indeed, the producers of battery eggs who will be forced by the new legislation to produce free range eggs are expected to suffer in the short run especially if the new systems involve large capital outlays (new buildings, land, equipment etc.) but a scheme could be put in place whereby there is a sensible phasing period between the two systems and a contribution of public money can help nullify or lessen the initial costs. After a while, however, “producer revenue from eggs would increase since consumers would reduce the amount of eggs they buy by proportionately less than the increase in the price of eggs, given the very low price elasticity of demand for eggs”³⁵ (Bennett, 1997: 286).

³⁵ As a result of this, “most of the additional costs of producing eggs without cages would be borne by consumers rather than producers, and these costs would represent a very small increase in consumer expenditures on food. Thus the cost-benefit and welfare economic criteria as to whether or not the policy should be implemented are partly satisfied (i.e., benefits could outweigh costs such that the gainers of the policy could compensate the losers). However, it is difficult to see how consumers who do not want the legislation could be compensated (since under any policy they are likely to pay either as consumers or taxpayers)” (Bennett 1997: 286).

Given the mean WTP (£0.41), the expected benefit of this ban would be £161 million per annum,³⁶ which can be contrasted to the increased cost to egg producers of £39 million per year for the 12-year adjustment period³⁷ (Bennett and Blaney, 2003: 93). By comparing these costs and benefits, it can be seen that there would be a net benefit if the legislation were to be implemented, even if the respondents who did not fill in the questionnaire have an implied WTP of £0.

16% of the respondents said that on average their consumption of eggs would decrease by 18% if the egg prices increased by their WTP amount. This was extrapolated for the UK, where national consumption is expected to decrease to 5905 million per year (in 2000, UK consumers bought 6080 million eggs) and the legislation would affect the consumption of about 4724 million eggs (this is because 80% of eggs bought are battery eggs) (Bennett and Blaney, 2003: 93). This is a reflection of the economic ordinalism issue as highlighted by Cowen (2006) previously in this chapter. In addition to this, even though an overall net benefit is experienced, it is unlikely that the costs and benefits will be spread out equally over all individuals in society. Those that are expected to benefit the most are those individuals with higher incomes, simply because they purchase fewer battery eggs than those with lower incomes (the former group's WTP is almost twice the WTP of the latter group). The pricing approach implemented by retailers will determine how much of the increased producer costs the consumers and producers will each bear. If the price of eggs increases significantly, then it will be the low-income consumers who will suffer the most (Bennett and Blaney, 2003: 93).

2.5.1.3. Tsakiridou *et al.*

This study was conducted in 2007 in the second largest city of Greece, Thessaloniki. It was a face-to-face survey of 400 consumers, all of whom made the purchasing decisions in their households. Among attitudinal, descriptive questions, the survey also looked to elicit respondents' WTP for welfare certified products (Tsakiridou *et al.*, 2010: 235). It was found that only 15.5% of individuals in the sample did not purchase certified products, where 76% of the respondents believe that in purchasing higher welfare products, they have a positive influence on the welfare of farm animals (Tsakiridou *et al.*, 2010: 236).

As seen in Table 2.6, below, 27.5% of respondents expressed that they would be willing to pay a 5% premium on their (high welfare) meat and a further 25.8% stated that they would be willing to pay a 10% premium. Similarly, 30% of respondents had a price premium of 5% for eggs and an additional 16.8% were willing to pay an extra 10% for the higher welfare alternative. The respondent percentages for milk products are 27.5% and 19% (Tsakiridou *et al.*, 2010: 236).

³⁶ If it is assumed that all those individuals who did not reply to the questionnaire have a mean WTP of £0, the estimated benefits fall to £48 million per year.

³⁷ In 2001, the Ministry of Agriculture, Fisheries and Food (MAFF) in the UK calculated that the costs (capital and building), that would accrue to battery cage producers in the 12 years of adjustment, in the conversion to 'enriched' cages, barn and free range eggs, would amount to £466 million.

Table 2.6: WTP for Meat, Eggs and Dairy Products with Animal-Friendly Methods of Production

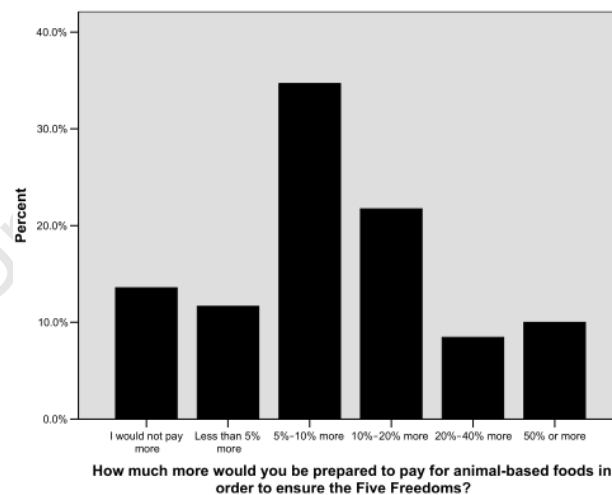
		WTP				
		0%	5% more	10% more	25% more	>25%
Meat	Frequency	118	110	103	29	20
	%	29.5	27.5	25.8	7.3	5.0
Eggs	Frequency	146	120	67	26	18
	%	36.5	30.0	16.8	6.5	4.5
Milk products	Frequency	134	110	76	32	28
	%	33.5	27.5	19	8.0	7.0

Source: Tsakiridou *et al.* (2010: 236).

2.5.1.4. Taylor and Signal

This study, as conducted by the Centre for Social Science Research at Queensland University, entailed a telephonic survey to 2 795 randomised Queensland residents over 18 years of age. 1 224 valid responses were elicited (44% of total) with an average age of 48 (range 18-85), 612 males and 608 females. The survey consisted of three sections: an introduction, demographical information, and lastly, the research questions, as indicated on a Likert scale format³⁸ (Taylor and Signal, 2009: 349-350). Results were generated by means of the statistical programme SPSS. As observed from Figure 2.5, below, the largest group of people (33% of the sample) was willing to pay a price premium of 5-10%. Quite significantly, 14% of individuals were not willing to pay more for their animal-based products (Taylor and Signal, 2009: 351).

Figure 2.5: Respondents' WTP to Ensure the Five Freedoms are Met



Source: Taylor and Signal (2009: 352)

Interestingly, the following variables were found not to be statistically significant to WTP: Type and strength of religious belief, political affiliation, Dwelling ownership, occupation,

³⁸ E.G. ranking responses from 1 (not concerned) to 5 (extremely concerned), and asking about a WTP to ensure all of the 5 freedoms are met for all animal-based products: 1 = I would not pay more, 2 = <5% more, 3 = 5–10% more, 4 = 10–20% more, 5 = 20–40% more, and 6 = >40% more.

marital status, state of employment/unemployment, whether respondents were retired or students, education level, presence of children in the household, and whether the dwelling was in a rural or urban area. There was a significant, positive relationship between household income and WTP, and a negative relationship between age and WTP (Taylor and Signal, 2009: 351).

When respondents were asked whether they have concerns with regard to the welfare of farm animals, about 36% of the total sample indicated that they were concerned and 6.3% claimed that were not at all concerned. This level of concern was found to have a significant, positive effect on WTP (Taylor and Signal, 2009: 354).

2.5.2. Alternative Approaches to CBA

It is also of importance to consider that while CBA requires a valuation technique (so that the costs and the benefits of the proposed action can be compared with each other); there exist other decision approaches that do not. These can be used as an alternative to CBA. One example is Multi-Criteria Decision Analysis (MCDA). This type of analysis makes use of the identification of a series of criteria to compare the merit of various alternatives – whether it be to rank alternatives, to identify the best option out of two or more alternatives, or to determine which of the outcomes will be acceptable. This methodology is helpful in that it allows a complicated problem to be broken up into smaller, more manageable parts, each of which is analysed and then assimilated again to provide a useful resolution to the original issue. As identified by and extracted from the Australian Department of Agriculture, Forestry and Fisheries (DAFF) website (2011), a step-by-step approach is followed in MCDA:

- (1) Identify the alternatives to be compared (free range vs. battery cage system).
- (2) Identify the set of criteria for comparing the alternatives (efficacy, humaneness, cost-effectiveness, target specificity; practicality, acceptability to public).
- (3) Identify the relative importance of each criterion (apply a weight of importance to each of the criteria from the previous step).
- (4) Score the alternatives against each criterion.
- (5) Multiply the score by the weighting for the criterion.
- (6) Add all the scores for a given alternative and rank the alternatives by their total score.

As an example of multi-criteria evaluation as provided by the Australian DAFF (2011), the Austrian government has made use of an Animal Needs Index (ANI) in order to make decisions regarding legislation around farm animal welfare. Specifically, according to Bartussek (1999) as cited by the Australian DAFF (2011), it has been a useful tool to measure and score the wellbeing of livestock in various housing scenarios. The index takes into account the following constituents that relate to the environment of the animals: “(1) the possibility of

mobility; (2) social contact with members of the same species; (3) condition of the floors on which animals are lying, standing and walking; (4) stable climate (including ventilation, light and noise; and (5) the intensity of human care.” More points are awarded to circumstances that better the welfare of the animals, after which all the points are summed up to get an overall index score. This final value can then be placed into an already-existing grading system ranging from poor to good welfare categories.

University of Cape Town



3. INDUSTRY OVERVIEW



3.1. Introduction

South Africa's is essentially a dual economy – even in urban areas a comparatively diminutive affluent elite, the management and skilled workers of the formal sector coexist with a poor majority who engage in subsistence activities in the informal sector, or as unskilled labourers, often in part-time employment. From a social perspective it seems clear that what is of importance here is that poultry and poultry products alike offer both the most affordable form of animal protein to the average local consumer, and a healthier alternative to red meat for the rich. It is not surprising, therefore, that as income per capita has risen, so has the demand for poultry and poultry products.

With rapid population growth since the early 20th century, the South African poultry industry has shifted from being predominantly located on small-scale farms to being large-scale, commercially-oriented enterprises (typified by advanced technology, modern farming practices and economies of scale as a result of large-scale intensive methods). Especially since the 1970s, there have been profound changes in agricultural animal production:

“Farms have become highly specialised, production has intensified and there have been striking increases in the number of animals per farm and in productivity. Housing systems and management practices have also changed profoundly with increased mechanisation and other technological developments. In a nutshell, despite offering welfare benefits such as increased hygiene and minimal risk of predation, animal production has become increasingly industrialised, with quantity often taking precedence over quality and attention being focused primarily on supply, price and competition” (Blokhuys, 2005: 3).

Unfortunately, as a result of this; cultural, attitudinal and commercial barriers hamper constructive communication between farmers and consumers, and there exists a mismatch between public perceptions of how animal products are produced, and the realities of modern farm-animal agricultural practices.

3.2. Overview

The South African Poultry Association (SAPA) has represented the South African commercial egg industry since 1936, thereafter, in 1952, it founded the Egg Control Board (ECB)³⁹. A subdivision of SAPA, the Developing Poultry Farmers' Organisation (DPFO), was established in 2003 in order to meet the needs and requirements of emerging and small-scale poultry producers. The poultry industry is broadly classified into three production branches: the day-old chick supply industry, the broiler industry, in which chickens are reared for meat consumption, and the egg industry.

³⁹ “This Organisation and its Committee have as its main missions improving the egg industry and promoting it on a national level. This entails a critical evaluation of the methodology of regulatory structures, supporting an industry Code of Practice, liaising with Government on crucial matters, liaising with consumer bodies, collection, compilation and distribution of statistics; and striving to build a stronger image and market for the egg industry on an ongoing basis through our Eggs are Magic campaign and to support training” (The South African Poultry Industry Profile, 2010: 5-6).

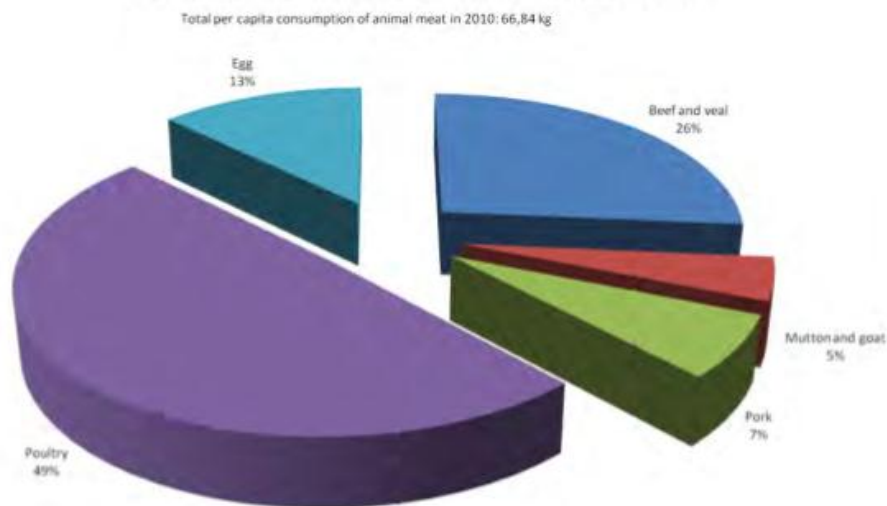
According to DAFF, in South Africa the two major determinants of the demand for eggs are population size and income levels (DAFF, 2010: 6), whereas others that are consistent with more developed countries include health considerations, egg production schemes and a change in lifestyle. “In the developing countries, people are much less concerned about whether layers are kept in cages or not, or that eating eggs can have a negative impact on the blood cholesterol levels of a small proportion of the population...” In light of this, in combination with the unique South African socio-economic profile, the local egg industry is distinctive in itself. What South Africa requires in terms of national food security is a cheap source of protein.

The price of eggs to the public, according to the DAFF report (2010: 8) is determined by the retailers who purchase the majority of local production – the five major retailers (Shoprite-Checkers, Woolworths, Pick ‘n Pay, Spar and MassMart) and other retail SMME’s. Even though demand from consumers may fluctuate, because of its long production cycle supply of eggs from producers to the retailers is considered relatively stable. Where excess demand or supply exist in the market, prices will adjust accordingly and will be managed on a weekly basis by producers themselves according to the previous week’s sales figures.

In December 2010, egg prices stood at about R14.10 per kg (at farm gate level), broiler meat stood at about R12,28 per kg (at farm gate level), pork stood at R14,82 per kg (at abattoir), and beef ranged from about R19,83 to R24,02 per kg (at abattoir) (Egg Organisation, 2010). Taking these prices into consideration, eggs are evidently a competitive source for animal protein (The South African Poultry Industry Profile, 2010: 27). As a result of this, the combined (broiler and egg) poultry industry provides about 62% of all animal-product protein consumed in South Africa (to which eggs contribute a total of 13%⁴⁰) and as the major supplier in kilogram and protein terms, can claim to feed the nation, where greater quantities of poultry products are consumed compared to all other animal products on an annual basis (Gauteng Enterprise Propeller (GEP), 2010: 1). Figure 3.1, on the next page, indicates the 2010 per person consumption contributions of the five different sources of animal protein (The South African Poultry Industry Profile, 2010: 7).

⁴⁰ 1 egg consumed per 3 people per day (population at 50 million in 2011). In 2009, according to the DAFF report (2010: 23) with an estimate population size of 48.6 million and with total consumption of 414 000 ton eggs per annum, makes for a per capita consumption of 8.17 kg or 130 eggs.

Figure 3.1: Per Capita Consumption of Animal Protein in 2010



Source: DAFF (2010:22).

Until recently, the growth in animal protein consumption was a reflection of South Africa's growing economy; now, however, rising living conditions (predominantly middle-class) are pushing consumers towards more protein-filled diets, greater health awareness and increased convenience. Resultantly, South African citizens are now consuming double the quantity of poultry as compared to in the 1970s [*sic*] (GEP, 2010: 1). There has also been an increase in egg producer marketing; the per capita demand for eggs in South Africa is still low when contrasted with some other developing countries (DAFF, 2010: 7). According to the International Egg Commission (IEC), South Africa wants to double its national egg consumption rate, aiming for an egg per day for every second person. The industry faces several challenges, though, as rising production costs limit growth rates (World Poultry, 2009).

Three key determinants seem to drive the financial success of the South African industry (both big and small producers), namely input costs, imports and the general strength of the economy. The major concerns to producers are the prices of the primary source of feed, maize, of other feed ingredients, and of the egg packaging facilities (The South African Poultry Industry Profile, 2010: 30). "Cost of production will remain an unrelenting problem. The lack of reliable production-cost figures will hamper not only every member, but also the industry in enabling us to inform government on the implications of costs, especially electricity, fuel and results of poor road infrastructure, in ensuring food security" (Egg Organisation, 2010: 12).

3.2.1. Sector Structure

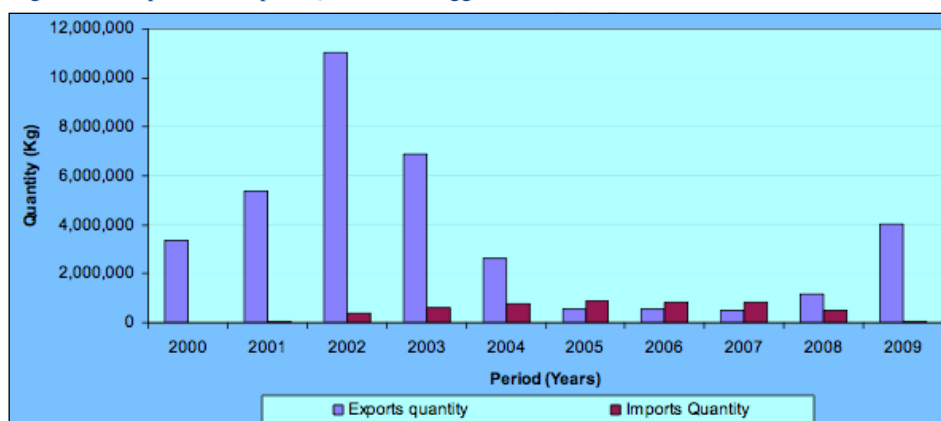
While the producer structure is technically highly concentrated - the three-firm concentration index is 51% (Eggbert, Nulaid and Highveld Cooperative), the next 45 largest producers provide only 9% of output. On the other hand roughly half of national production comes from SMMEs (DAFF, 2010: 5). No barriers to entry exist in this industry, but according to The South African Poultry Industry Profile (2010: 30), start-up projects will face challenges in

terms of the accessibility of: capital, expert know-how and laying flock. Large overhead costs and access to finance, as well as the difficulty in establishing relationships with formal distribution channels (which typically requires being able to supply on a large scale as well as having the ability to package, grade and transport the product) are also some crucial determinants to the success of a producer in the local egg industry. These all encompass problems these small local producers face in being able to supply to the larger grocers, making the more established large-scale producers a safer proposition for large retailers.

3.2.2. Exports and Imports

When comparing local consumption versus production data, it becomes evident that the egg industry is self-sufficient. Importing eggs is not a necessity to the South African market, and historically there has been sufficient and consistent capacity to export to other countries. The level of imports into South Africa is predominantly determined by exchange rates, whereas exports are driven by the food standard regulations of developed countries such as those within the European Union and the United States of America (DAFF, 2010: 9). Figure 3.2 below contrasts South Africa's egg exports and imports from 2000 to 2009, where it is evident that exports far exceed import quantity for the majority of the years depicted (DAFF, 2010: 7).

Figure 3.2: Import and Export Quantities of Eggs



Source: DAFF (2010:7).

In 2009, 74% of the total contribution of imports came from Denmark, 25% from France, 1% from Hong Kong and the remaining by Taiwan and Germany (DAFF, 2010: 20). South Africa exported 2441 tons of egg products, of which 96% consisted of shell eggs (Egg Organisation, 2010), 48% and 24% of all exports went to Zimbabwe and Mozambique respectively, 11% were unallocated, 1% went to Italy and the rest to other African countries. Traditionally, however, the main importer of South African eggs is the EU, especially Germany (DAFF, 2010: 33). For shelled eggs, South Africa's exports contribute 0.27% to world exports, making its world ranking 33 (DAFF, 2010: 39). According to The South African Poultry Industry Profile (2010: 27), "egg exports continued to operate from a low base and could perhaps become a long-term business opportunity for South African producers".

3.2.3. South African Egg Varieties

The egg industry in South Africa consists of two production systems: ‘Battery Chickens’ (chickens housed in layered cages), and ‘Free Range Chickens’ (chickens given space to move around in as well as access to the outdoors).

Data regarding the statistics of the different egg production systems is limited. In terms of the egg products currently produced in South Africa, 86% are produced by hens living in cages, 14% by hens living in a ‘free range’ environment, and 0% by hens living in a barn system (M Prinsloo⁴¹, pers. comm., 2011). According to Wilkins *et al.* (2005: 627), there has been a shift towards the production of free range eggs (which command a price premium). Though this sector is still classified as a niche one, it is claimed that it is developing at a rapid rate. Indeed, growing public awareness of these changes means that, together with food safety and environmental pollution, animal welfare now plays a major role in all discussions about animal production (Blokhuys, 2005).

3.2.3.1. Battery Hens (Cage Systems)

Conventionally, caged laying hens spend their producing lives in cages, often stacked 20 layers high, where free movement is inhibited. Hens are unable to exercise, have limited access to fresh air or sunlight, and are often part of a flock many hundreds of thousands of birds in size. The battery cage system has evolved as a means of controlling and managing the flock, and keeping costs down. It is undoubtedly the most cost-efficient technology currently available. It does, however, have a downside. The chickens live out their lives in pain and discomfort, with poor health and a very basic standard of hygiene. “In cages, hens cannot stretch their wings and are prevented from performing most of their natural behaviours, such as dust-bathing, perching and laying their eggs in a nest. They often suffer from Caged Layer Osteoporosis (CLO), or brittle bones, which is the cause of many premature deaths through paralysis and ultimate starvation” (Kleyn, 2010: 2). Studies have shown 1 in 6 caged hens live with broken bones (Parkinson, 1993 cited in Animals Australia, 2011). This then forms the basis of the debate on ethics within the agro-industry - a modern economic position of human anthropocentrism and utility measurement versus the philosophy of animal rights; it becomes an issue of evaluating whether the well-being of people who for all intents and purposes want cheap food outweighs the well-being of the chickens that provide the cheaper alternative.

The welfare of an egg-laying hen is centrally associated with the capability to act upon the instinctual behaviour, to nest, preen, forage, etc., all of which are prohibited in a battery cage production set-up. In SAPA’s 2011 ‘Code of Practice’ (COP), the minimum standards for egg production systems are presented, and it states, in the introduction for intensive cage systems, that “staff shall be able to understand and accept responsibility to prevent unnecessary suffering of birds in their care”. According to the code; hens must be allocated 450cm², with enough cage height to permit standing hens free head movement. In other words, 30cm x 15cm per hen – barely enough space for an adult bird to turn around in⁴². The code requires

⁴¹ Data correspondent for SAPA.

⁴² Floor system caged broilers also require 450 cm² each.

temperatures to be kept within 5° and 33°C, carbon dioxide levels restricted to 3000ppm⁴³, ammonia levels to be restricted to 15ppm, the light period to be restricted to 20 hours per day⁴⁴ (and light changes to be gradual to avoid flight reaction), fresh feed and water to be freely available at all times, twice daily inspection, dead hens to be removed daily, forced moulting through water deprivation to be restricted to 24 hours; and through feed deprivation to be restricted to 48 hours, and finally, management should have access to a competent veterinarian (SAPA, 2011b).

In SAPA's 2005 COP, M French, a spokesperson for the National Council of Societies for the Prevention of Cruelty to Animals (NSPCA), states that they support the Code in principle, and "welcome the instituting of minimum standards of animal husbandry designed to improve the health and welfare of poultry", but that they cannot agree with particular parts of the Code, where an example of this is the stipulated cage sizes (SAPA COP 2005, 2004: 1). Despite the standards set out by SAPA, it becomes noteworthy to introspectively assess whether such regulations exist for the sake of the hens themselves or for people. It becomes difficult to deem that such standards of practice are for the benefit of the animal considering the restrictive living conditions that they already experience – it appears that these minimum standards really are the bare minimum these hens require to prevent inconceivable torment. These are standards only just acceptable to the most insensitive of humans, not designed with the animal's comfort or well-being in mind but for the most efficient and effective egg production. On the other hand, standardising the living conditions is beneficial in that, when battery cage eggs are being purchased, it can be known exactly where eggs from this variety originates, under what conditions they were produced - this also helps in terms of pricing standardisation. As mentioned above, such standards provide guidelines for the most cost-effective method of egg production, easily adopted when price consideration is key.

3.2.3.2. Free Range Eggs

Despite having little to no differentiation of egg production systems in their industry publications, SAPA specifies that Free Range systems hinge on the practice of keeping birds in an environment in which they will have the ability to express the five freedoms (SAPA COP 2011, 2011: 50), where these criteria require that livestock are:

- Free from hunger and thirst via the availability of fresh water and appropriate feed.
- Free from abnormal discomfort via the provision of adequate shelter.
- Free from abnormal pain, injury or disease via the provision of appropriate prevention or alternatively, rapid diagnosis and treatment, of normal pathological conditions.
- Allowing for the freedom to express natural behaviour by providing sufficient space in suitable facilities and the company of the animals' own kind.
- By providing conditions and care, which avoid undue suffering and thus permit freedom from fear and distress.

⁴³ Parts per million.

⁴⁴ At least 4 hours of darkness per day.

The fact that the free range market is a comparatively new one makes these provisions and their exact resultant requirements rather ambiguous and open to interpretation. Consequently, the exact impact on animal welfare is uncertain. The freedoms are unarguably all-desirable and will undoubtedly lead to an improvement in animal welfare, but elements such as ‘undue suffering’ and ‘adequate shelter’ are yet to be clearly defined by a unified international institution. As a result of this, SAPA released their own definition of what free range entails as well as the adopted minimum requirements.

In dealing with the issue of housing, the 2011 COP stipulates that free range hens must be free to roam within the confines of a shed, must have access to an outdoor range, and should never be confined to cage production systems. The house must be constructed such that it provides for the welfare needs of the birds, whilst simultaneously providing protection from inclement weather conditions, as well as both physical and thermal discomfort. The minimum space required per bird is 1,000 cm², just more than double the minimum space required in a caged system⁴⁵. A minimum airflow of 8 m³ per hour per adult hen is required, litter must be provided on at least 33% of the floor area, and stocking densities must be adequate to accommodate the birds’ normal behaviour. A nest facility must be provided for every 8 hens, and light must be provided for a minimum of 9 hours per 24 hour day⁴⁶. Environmental factors such as carbon dioxide, temperature and ammonia levels are kept in line with caged systems.

Where battery systems and free range systems differ fundamentally, is in their provisions for hens to move around freely. In a free range system, hens must be allocated 2000 cm² in an external environment with 50% living vegetation at all times, and they must have at least 6 hours of external access to the area during daylight hours. In the same fashion as caged systems, chickens are to be inspected daily, with deceased birds removed at each inspection. Eggs must be collected from nests at least twice a day, and nest boxes and material must be kept clean (SAPA COP 2011, 2011: 50). It is without a doubt that, in examining the above living conditions of the hens within the two production methods, the free range system allows for the freedom to act on their instinctual behaviours within more natural surroundings, thereby improving the welfare of the hens.

Officially, the Egg Organisation (Egg Organisation Chairman Report, 2010: 12) reports only the following regarding the welfare of the egg-laying hens:

“With an increased awareness of the general public of animal welfare we as an industry will have to ensure that our practices meet with both international and local expectations. The real experience with one of the chick producers has continued to contribute to the negative image of the industry and the general public's view on this has been described as “disastrous”. We need to ensure that all producers do heed the Codes of Practice applicable to the culling of non-saleable chicks, as well as the transport of both point-of-lay and cull birds.”

⁴⁵ Free range broilers require 667 cm² each.

⁴⁶ At least 8 hours of darkness per day.

3.3. Legislation

Primarily, legislation on animal rights has multiple dimensions and can be investigated on three tiers (ranked in order of perceived importance): The first one defines property rights in that it sees the animal as the property, and in doing so would provide incentives for economically efficient behaviour with regards to the animal and how they are treated or abused in reaction to economic efficiency. The second entails legislating animal treatment for human requirement; prescribes and proscribes certain behaviours regarding animals, typically where they affect the well-being of the consumer (diet to improve the nutritional value in eggs for example, or prohibiting the use of certain hormones). The third involves legislating directly and purely for animal welfare, or improvements therein. The impacts that these three types of legislative intervention have on the welfare of the animal naturally differ. While the first of these gives the owner the right to diminish animal welfare, from the second category, animal welfare may start to improve depending on the type of intervention.

While the material above offers a snap shot of the status-quo in South Africa's egg industry–, its future direction will largely depend on the power and nature of consumer demand. The need to refer to popular literature becomes a necessity here – it is a definitive stage in the discussion of a topic when it becomes relevant for public consumption. This is indicative that there has been a movement in public perception, awareness that the topic is of importance and requires community debate. Essentially, for a fundamentally consumer- and exposure-driven issue such as the one under discussion, disclosure in popular literature becomes imperative.

Poultry producers have faced increasing numbers of exposés in the popular press, and some insight into these and the issues they have raised might indicate future industry trends. As an example, an article was published in The Big Issue street magazine⁴⁷ which dealt with issues around South African farm animal welfare. This indicated that there are gaps in the monitoring of standards within the industry. The *Animal Protection Act No. 71 of 1962* broadly governs the farming industry, where under each industry has to adhere to minimum standards as stipulated in the industry-specific Code of Practice that is compiled by numerous role players including the NSPCA, governmental bodies, the Livestock Welfare Coordinating Committee and the South African Bureau of Standards. As mentioned above, the South African Poultry Association (SAPA) has a role in this regard; the association's spokesperson asserts that all members of this organisation have agreed to obey the codes regarding the living conditions of the chickens. Interviewed for an article in the popular press he stated that, "...all food produced and sold to the consumer must conform to laws and regulations set out by various government departments, including the departments of health and agriculture, as well as organisations such as the NSPCA to ensure that acceptable standards are adhered to" (Kendal *et al.*, 2011: 28). However, the problem arises with the lack of direct regulation or supervision from a 'hands-on' governmental body, where there is dependency on the NSPCA and other above mentioned role players to undertake this task (Wilkins *et al.*, 2005: 630). This has proved to be very challenging in light of the lack of capacity and coordination of these organisations – this has made it possible for producers to get away with not adhering to the stipulated guidelines.

⁴⁷ Written by Rebekah Kendal, Charis Le Riche and Kimberly Yu.

In the Big Issue article, Grace de Lange from the Farm Animal Unit of the NSPCA notes the discrepancy between the provisions in the Animal Protection Act and the realities present in factory farming – many feedlot practices as stipulated by the codes of practice should already be illegal: “After World War II there was an explosion of factory farms. It is difficult to keep standards, such as [ensuring animals have] freedom to move, when factory farming’s been in place since before the Animal Protection Act was created” (Kendal *et al.*, 2011: 28). In another piece from the popular press the NSPCA Farm Animal Unit recognised that, “We need to change legislation and the code of conduct. Currently there’s nothing that makes provision for animals or something expressed that gives the animal rights. But we also need a judicial system to act on cases of cruelty” (Gold, 2011).

Such practices are rationalised by the need for food security in a setting of increasing population numbers. Lovell (Kendal *et al.*, 2011: 29) reiterates that “By applying considerable advantages gained through large-scale food production, especially in economy of scale input sourcing and cost efficiencies, combined with superior logistic capabilities, the modern commercial farming enterprise is able to meet the needs of the ordinary consumer for healthy, nutritious and, most of all, affordable food”. As mentioned above, this situation is exacerbated in South Africa by the growing middle class (from 2000 to 2004 the middle class group grew by 31%) seeking to consume more animal products. A Democratic Alliance spokesperson claims that factory farming will be the norm until food is accessible to all on a daily basis; only after that objective is reached can society begin to discuss the pros and cons of such a system. Such a short-sighted view ignores the problems inherent in these farming practices, including water and maize use inefficiencies that threaten food security in itself.

In conclusion, this article stipulates that the true, social cost of animal products is correctly captured in the free range varieties. Thus, in response to a failing factory farming scheme, “downscale...you have more people producing locally, and if more people produce locally the price will come down” (Kenda *et al.*, 2011: 31). Cutting out the ‘middle man’ in the distribution of products and allowing consumers to purchase products straight from the farms is another suggestion in encouraging people to procure free range varieties, making the following sub-section all the more important.

In examining other sources of popular literature, a recent newspaper article in The Times, ‘*In a Cluck over Chicken*’⁴⁸, highlights that purchasing free range chickens can be misleading, and that only a small percentage of this variety have been raised similar to the ‘farm style’ method – this is because, according to Bonello⁴⁹, there are no strict guidelines as to what free range and organic entails. Despite this, free range is still better than battery cage, and even though the latter is cheaper, if injected with brine, will reduce to up to half its original size. Burgener⁵⁰ states that “Despite this, with an economy like ours, where price is so relevant, it’s hard to convince people, or even expect them, to use free range produce” (Naidoo, 2011: 19). The price of regular chickens have remained more or less the same compared to what they were 50 years ago, while the prices of other meat sources have increased significantly – this is

⁴⁸ Written by Shanthini Naidoo.

⁴⁹ South African good food ambassador and television chef.

⁵⁰ A South African food expert and chef.

alarming. The article then deals mostly with South Africa's dependence on imported chicken (15% of chicken was imported in 2010), in light of the comparatively high local production costs specifically the cost of maize and soya used for feed and the cost of compliance to SAPA's regulations. There is obviously no, or a limited way in which to track the quality of this meat in terms of the living conditions of the chickens, and the use of antibiotics and growth hormones associated with this practice. Resultantly, traceability in restaurants and supermarkets has become a major issue. In a more general sense, Bonello states, "Our suppliers prescribe what we eat. They must be honest and tell us what is in our food. We put our trust into our food suppliers and that's where it ends" (Naidoo, 2011: 19). All South Africans, rich and poor need to have access to ethically produced, and need to make use of their spending power to support such products. "Government is responsible for fixing legislation so we will eventually know what we are eating. In the meanwhile, we need to reduce the amount of meat and chicken we eat, rich or poor, and pay more for better quality products" (Bonello, in Naidoo, 2011: 19). Accordingly, in implementing the CPA, addressing this issue can be initiated, but this also needs to be supplemented with being socially aware of where food comes from.

3.4. The Role of the Grocer

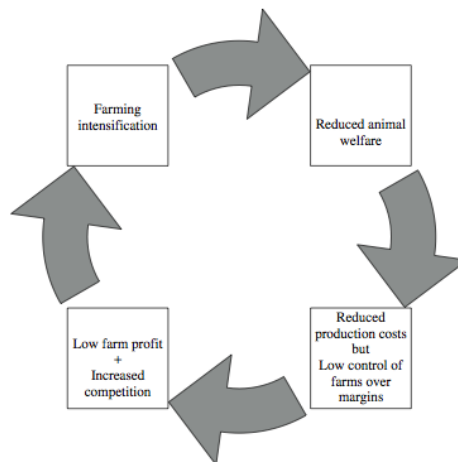
3.4.1. Ruthless Retailing

As of 2007, four retail chains (Pick 'n Pay, Shoprite/Checkers, Woolworths and Spar) control 94.5% of the retail food market in South Africa (The National Agricultural Marketing Council (NAMC), 2009: 10). Regionally, this is even more pronounced, with the same four chains controlling 96% of the market in the Western Cape, and 97% in the Eastern Cape and Kwazulu-Natal.

Over the last few decades, the structure of the food retail market has changed significantly. The drastic increase in the market dominance of large retailers has resulted in oligopsonistic behaviour, where supermarkets have the market power to dictate terms and conditions to suppliers. This has led to the ability of the supermarkets to force their buying prices to 'rock-bottom', such low prices that producers are barely making a profit, if any. The concept of economies of scale has become key in determining the market price. The central role of the supermarkets in the marketing of eggs has given them monopsony power in the egg-supply market. The figure below provides a simplification of the vicious cycle currently affecting all role players. It is argued here that the market power of the supermarkets, has enforced production cost reductions on farms and limited farmers' control over their own profit margins. This often leads to low profit margins for farmers and increased competition among producers, which further entrenches the intensive methods of farming, resulting in lower animal welfare. Given the nature of the food production industry in South Africa, egg producers are forced to deal with tight margins that put an emphasis on minimising costs. Thus, optimum production at minimal costs is key to survival. It is for this reason that intensive farming such as the battery cage scenario exists and supplies most of the egg market. Relationships are with a centralised head office system, which eradicates localised supplier-retailer relationships. This makes small scale supply near to impossible. A diagram similar to the one below has been used in the previous chapter (Figure 2.4: pg. 27), and indicates the ideal cycle as a result of product

differentiation and information dissemination – as suggested by the authors, this is a way in which to break the status quo cycle, as depicted in Figure 3.3, below:

Figure 3.3: The Vicious Cycle of Bad Welfare as a Result of Insufficient Product Differentiation



Source: Napolitano *et al.* (2010: 538).

Coupled with this, the disposal of state-supported marketing boards has led to a significant decrease in the collective bargaining power of the farmers – this has resulted in an impact on the competitiveness food chain. (NAMC, 2009: 1). Certainly, concerns have been raised regarding the debate around the potentially damaging affects the grocers and their status quo ‘procurement practices’ have on the farmers (NAMC, 2009: 2); “[s]tudies in the USA, UK and Australia have shown that supermarkets have a tendency to use their oligopolistic power to raise retail prices while at the same time using their oligopsonistic power unduly to pay lower prices to suppliers”.

The effects of this market power are far-reaching: “[t]he magnitude of welfare loss arising from market power by supermarkets and food processors can be substantial. Studies in the U.S. have shown that economic welfare loss arising from concentration and market power along the food supply chain reduces both consumer and producer surplus by nearly half (46%) relative to the competitive outcome” (Sexton, 2001, in NAMC, 2009: 6). The council believe that “the buying power of retailers may have adverse effects on the viability and efficiency of suppliers and which could be to the detriment to the agricultural and food industry at large”. The shortage of UHT milk in South Africa in 2007 illustrates this concern, and shows that consumer welfare is at stake in the long term (NAMC, 2009: 9). In addition to this, current competition laws do not adequately address this problem. “The Competition Commission in the United Kingdom made an important finding in 2000 in which it argued that the presence of supermarket buying power led to more demand shocks experienced by the farming industry being borne by farmers than might otherwise have been the case”. (NAMC, 2009: 11).

“An investigation by Dobson *et al.* (2001) shows that in the more competitive markets, the retail groups were certainly able to squeeze the margins of their suppliers. The chain may switch to an alternative supplier in a short period of time which provides the supplier with a

very weak negotiating position and enables the supermarket chain to set a very low price. Many smaller role players in the industry may therefore accept too low a price (in order to avoid losing the retailer contract) endangering the long term viability of the enterprise" (NAMC, 2009: 14). The NAMC (2009: 20) shows that there exist numerous 'factors and practices' inherent in this supplier-grocer association that has the ability to lead to extra consumer costs. These are: "confidential rebates, returns on no sales and in-store breakage and losses, poor management of the cold chain, poor management and care of supplier packaging material, long periods before payment, price being the only issue in the relationship - not quality, collaboration in product development and other soft issues are not considered which could be important in establishing long term and sustainable supplier-retailer relationships".

3.4.2. The Questionnaire

As investigated above, there is another crucial participant in the egg industry – the retailer. In an attempt to examine the role that firms like Spar, Pick and Pay, Checkers and Woolworths may have in the South African egg industry, a short questionnaire was conducted (Appendix A). It was set up to be the basis for a structured interview if the managers were willing to answer the questions and had time to do so at the time, and if not, the questions were left with them and were collected at another time.

There are two main approaches that could be utilised to 'encourage' consumers to purchase free range instead of battery eggs. The proposed ban on battery cages is just one way of doing so – implying that the choice is taken away from the consumer. If this is legislated all the chicken farmers would change the way of their farming, costs might rise and supply of eggs to the market might drop slightly, and quantity demanded by consumers might fall – this then becomes a general equilibrium issue where it becomes difficult to talk about the supermarkets' ability to adapt. Instead of such a situation, another approach would be to simply provide the products the market requires in reaction to consumer demand. This would need to be supplemented by an educational drive that would promote free range eggs. The successes of both of these methodologies are under the assumption that supermarkets are passive respondents to what consumers desire or what government allows them to have.

The opposite of such a case is also a prospect, where supermarkets have the potential to be active drivers of consumer preferences. According to the National Consumer Forum (NCF), in light of urban challenges such as increasing urbanisation, poverty, food insecurity and water and energy shortages, supermarkets are starting to play a more pivotal role in affecting consumer behaviour – "...major centres in the world are re-examining their environmental and socio-economic footprints and supermarkets have become key drivers in city-based economies" (NCF: 2010). The pilot research study conducted by the NCF focused on the management and local product procurement procedure, promotion of in-store environmentally friendly products, as well as the availability of recycling facilities in an attempt to reduce their own carbon footprint. It concluded, however, that even though some initiatives are in place, "South African supermarkets have plenty of room for improvement in encouraging consumers to shop in ways that support environmental and socio-economic sustainability" (NCF: 2010). They suggested that this was especially evident in the lack of support supermarkets gave smaller, local businesses. On the other hand, such support can be particularly difficult when

purchasing decisions are made at a central or national head office, though such a purchasing process will give the firm a great deal more power if they are particular about following certain production regulations.

Recently, retailers themselves have even been accused of indirectly promoting animal hardship by not educating consumers - van der Merwe, Humane Education Trust (HET) spokesperson and editor of *Animal Voice* said, “What you don’t see, you never know about. Supermarkets are massively guilty as most of their food comes from ‘abominable suffering’ and they knowingly keep this information from consumers” (Gold, 2011). This, however, will always be an issue; as an example, one way of selling meat is to pre-pack it so that it looks like any other commodity, completely detached from the corpse of the animal making the consumer unaware of the life and death involved in the product. This then becomes a complex issue around the ethics of advertising. Supermarkets, as suggested by the NCF, may take care to select their suppliers in a more careful or informed manner.

A short, qualitative questionnaire was formulated to elicit opinions from managers of grocery stores so that the demand concepts behind in-store sales of two egg varieties, battery and free range could be identified, in addition to the role grocery stores play in influencing consumer egg purchases. It was formulated to gauge how influential the managers consider themselves in driving the standards of the producers, whether the managers themselves have the ability to apply pressure on the farmers directly, and whether they are an active or passive force in initiating the change consumers’ demand. The market here is not a mere passive location, rather the retailer fills the middle ground between suppliers and consumers, and has the ability to (in collaboration with the demand from consumers⁵¹) bring about a potential change to the local egg industry if it were desired. In essence the questions pertained to the grocers’ perception of and reaction to the ‘ethical’ consumer, as well as their response to suppliers and the intended legislation ban on battery eggs. Most of the questions were kept deliberately open-ended so as to provide a platform for managers to voice their opinions, and the overall survey was kept short and concise so that it would not take much time to complete.

This survey was conducted in a one week period of low pressure in the industry, from 12 June 2011 to the 19 June 2011. Since the aim was not statistical data collection, but merely to get an insight into the issue from the perspective of managers a high volume was not needed. Quite a few managers who were approached with my questionnaire did not complete the survey - 20 surveys were distributed and 8 were completed and returned. This indicates that the individual store managers were either too busy or did not want to answer some of the questions (especially the price-sensitive ones). There was also a general hostility from the head offices – numerous emails were sent to the head offices of the main supermarkets with no reply. Woolworths head office was the only one to respond to my questions.

⁵¹ This consumer power might not be needed if all the supermarkets agreed to only stock free range eggs with no battery eggs at any branches. Resultantly, they would not risk losing market share. Unfortunately such a strategy might be classed as a collusive practice and would probably be illegal from the perspective of the competition commission.

3.4.2.1. The Results

The following concept matrix depicts the questions of the survey that was conducted as well as the yielded responses.

Table 3.1: Concept Matrix – Grocers' Responses

	Respondent 1	Respondent 2	Respondent 3	Respondent 4
1. Which egg varieties do you stock in-store?	Battery cage eggs (95% of the shelf space) and free range eggs (5% of shelf space)	90% battery cage eggs 10% free range	100% battery cage eggs	80% battery cage eggs 20% free range eggs
2. What are the reasons behind you stocking these particular varieties in those quantities?	Response to consumer demands and product pricing	Response to consumer demand for a cheap protein source. <i>"The free range is a result of product variety and personal choice"</i>	Local farmers are all battery cage producers and can supply the product at very reasonable prices	Consumer demand for battery cage eggs is dominant in the market due to the more competitive price. <i>"Consumers concerned for the wellbeing of the chickens will insist on buying free range eggs"</i>
3. Do you have a direct relationship with the farmers that supply your eggs?	No – suppliers are selected by central national head office. <i>"Furthermore we do not have any knowledge of the living conditions of the hens that lay the eggs"</i>	Yes – suppliers of eggs can be selected by the branch who are fully aware of the living conditions of the hens since they do on-site visits 3 times annually	Yes, suppliers are selected directly but the living conditions of the egg-laying hens are not known	Yes – product suppliers are selected by the branch as long as there is adherence to the safety and hygiene standards
4. Are there any incentives that could be offered to you to guarantee that you only stock free range eggs?	No – stocking only free range eggs would be have a negative impact on egg sales	Stocking free range would affect sales because they are more costly - consumers determine the variety of eggs stocked	Stocking solely free range would not be done voluntarily since no consumers have requested the product, but <i>"a settlement discount of 5% would be a great incentive"</i>	None – would only switch to free range should consumers demand this
5. Are there any consumer concerns regarding the egg varieties you stock?	No – generally consumers are price conscious and happy with the variety stocked <i>"There's a huge price competition in the market"</i>	There has been some requests for an increase in shelf space for free range eggs and this has been executed. There has also been an increase in volumes ordered as a result of requests.	No – consumers are satisfied with battery cage eggs <i>"important factors are freshness, expiry dates, availability and value for money"</i>	In the past there were requests for free range eggs that now get sold. Otherwise, consumers appear to be pleased with the varieties on offer
6. What is your pricing strategy for eggs?	confidential information	A standard % mark-up exists – both egg varieties are marked up by the same percentage although free range eggs cost approximately 30%	Mark-up is ranges between 20-25%	Mark-up is the same for both free range and battery eggs

		more than the battery cage equivalent.		
7. Will the market for free range eggs continue to grow?	Only if the pricing structure is competitive	The free range market is purely niche and will continue to have only a small market share despite consumer education	No – will remain a comparatively small market <i>“supply is limited and they will remain out priced because battery cage eggs are more freely available at a very competitive price”</i>	No - <i>“consumer demand for ethical products is highest among wealthier consumers. Price sensitive consumers shop based purely based on affordability”</i>
8. What are the factors that identify the ‘ethical’ consumer?		Typically affluent, price insensitive individuals that are <i>“aged between 24-40 years, usually female home executives and professionals”</i>	Female or male Age 25-45 Income bracket R15 000 – R40 000 pm	Higher income bracket
9. Would you support a national ban in battery egg production?	No – <i>“a national ban on battery cage eggs would mean a huge disaster to the egg business”</i>	Yes – but it would affect business sales negatively because of socio-economic factors. <i>“Eggs are a staple and value for money protein so in my opinion it would be difficult to have a national ban on battery cage eggs”</i>	No – there would be great concerns about stock availability and the negative affect on sales since this grocer targets 5-7 LSM who cannot afford a more expensive variety.	No – a national ban would force the sale of free range only and increase the price of eggs, and sales would drop as a result of this

	Respondent 5	Respondent 6 (Woolworths)	Respondent 7	Respondent 8
1. Which egg varieties do you stock in-store?	90% battery cage eggs 10% free range eggs	100% free range	100% battery cage eggs	Battery cage eggs: House Brand (9 meters) Farm Brands (17 + 4 meters) Free range eggs: House Brand (4 meters)
2. What are the reasons behind you stocking these particular varieties in those quantities?	Consumer demand	The belief that it is ‘the right thing to do’ in addition to consumers having preferences for products associated with higher animal welfare	Target market of supermarket is extremely price sensitive individuals who look for the cheapest prices – consumer demand driven according to their socio-economic status	Stocking choices are consumer driven – free range are driven be personal choice and battery cage eggs are price driven <i>“it’s most easily accessible in the market, many more suppliers of battery cage eggs”</i>
3. Do you have a direct relationship	Yes – there exists a ‘one-on-one’	Yes – some of these good relationships	No	Yes – suppliers are selected directly by

with the farmers that supply your eggs?	relationship between the branch and the supplier – “regular contact via a ‘coordinator’ who visits on a time set basis”	date back about 40 years		the buyers who conduct on-site farm inspections to observe farm operations and the living conditions of the hens.
4. Are there any incentives that could be offered to you to guarantee that you only stock free range eggs?	No – it is purely consumer demand (that is dependent on race and income specifically) that dictates the eggs varieties that are stocked	n/a	No – there would be a natural incentive to the business financially if consumers should demand only free range eggs	Yes – cost reduction of free range eggs. Currently, it would be difficult to stock only free range eggs in terms of competition with other retailers.
5. Are there any consumer concerns regarding the egg varieties you stock?	No	“Yes our customers have put us under pressure through petitions, complaints, and requests to use free range eggs in all our products” – there are already 140 of these on the shelves to be increased to 200 by the end of 2011.	No	Yes – consumers have requested different egg varieties, which we now stock. Important factors are: price, size, packaging and presentation and free range
6. What is your pricing strategy for eggs?	“Eggs are KVI (known value item) in retail industry and therefore carries low G.P margins. The annual gross on eggs is approximately 5% overall...very small difference between the varieties”		Mark-up system	Mark-up process, there is a slightly higher % on free range eggs. Free Range: 6 large cost = 9.95, retail = 11.45 (mark up 22.68%) Battery: 6 large cost = 7.05, retail = 8.59 (mark up 21.08%) Low mark ups because profits are realised through volume sales
7. Will the market for free range eggs continue to grow?	The free range market will remain small, because the large portion of the South African population is in the low income bracket. However, there is potential for a movement towards a big free range market over the next 20 years in light of growing consumer awareness	Yes – it is most certainly a growing market, especially in light of an increase in consumer consciousness through education by means of movies, books and other media sources	Yes – but the lower income segment needs to be targeted if this to be the case	“Education is the operative word. Much more needs to be done on educating consumers on what free range really means and the benefits thereof. With stricter regulation on the use of the word free range and better marketing techniques it could have the

	through education.			<i>potential to be more established”</i>
8. What are the factors that identify the ‘ethical’ consumer?	Healthy, middle-upper income individuals who have concerns for the health of their families and the future – the “ <i>desire to be better</i> ”	Ethical consumers can come from any walks of life, provided that they ‘recognise that their sense of freedom and authenticity is linked to the well-being of others - including the land, the trees and the animals’ (SA poet Ian McCallum)		Age: 35-45 Gender: female Income bracket: R15 000 pm Race: white Generally these are the individuals who are concerned with environmental factors and are more health conscious
9. Would you support a national ban in battery egg production?	No, because such a ban would be detrimental to the customers	Yes – only once all our products have been converted to include free range eggs. <i>“If done too fast, it will put up the selling prices of many products (in our case the lines that have yet to convert to free range eggs). Putting up prices of basic foods will hurt the poor most. They already spend a third of their income on food. It will put the battery egg suppliers out of business.”</i>	Yes – provided the price of eggs increases by a reasonable amount as a result of this ban, consumers will still demand the product. Thus, the ban’s impact to business will be short-lived and not detrimental.	Yes – provided that the authorities have strict control and compliance measures in place in terms of product monitoring. Sales will be affected, but marginally so, since if there is no close substitute to the free range eggs, consumers will be inclined to purchase them

In addition to the detail depicted in the matrix above, some key inferences can be deduced from the conducted survey:

- This survey confirms that retailers see egg consumers as predominantly interested in price, which remains the main determinant of most consumers’ decisions.
- Grocers are sensitive to consumers’ demands; it is the customer that decides what egg varieties and in what quantities supermarkets will stock. This suggests that grocers will not willingly stock free range eggs exclusively while even a handful of consumers continue to demand cheaper battery eggs.
- Nonetheless marketing can shape consumer preferences.
- If the free range market is to gain popularity and continue to grow, grocers consider consumer education to be of vital importance.
- Put more power into the hands of individual branches to make their own purchasing decisions – encourage managers and buyers to make informed decisions when it comes to

product procurement. In contemplation of the above market power of the supermarkets and the cost-cutting reasons for a central buying scheme will make such a recommendation near impossible.

Woolworths are considered to be the pioneers in the promotion of animal welfare in South Africa – they currently do not sell any eggs that are produced from the cage system. The decision to progress from battery to free range, as was implemented 11 years ago in 2000, was not fuelled by much market research. “It's something we did - believing it was the right thing to do - and the customer response was fantastic”, (T McLaughlin, pers. comm., 2011), and within four years Woolworths stopped selling battery cage eggs completely. In addition to this, the grocer is currently phasing out the use of battery eggs as an input to their products, and hope to have approximately 200 battery-free products by the end of 2011. This provides a very good example of the supermarkets taking a more active and direct approach in improving the well-being of the egg-laying hens, with a very positive consumer response. In doing so, Woolworths have set themselves apart as the ethically-conscious retailer and is widely supported by the more sophisticated South African consumer as a result of this. Woolworths also pointed out two specific organisations that have been ‘prominent stakeholders’ in the effort to ban battery cages, namely Animal Voice and the online campaign and petition site, Activist⁵² (McLaughlin T. pers. com 2011). Clearly, however, there is a gap between consumers and their initiatives, and grocers, which need to be narrowed: “Many businesses are clearly still apprehensive and distrustful of consumer organisations, and this has to change if consumers are going to start standing toe-to-toe with big business to ensure mutual respect and dialogue.” (NCF, 2010). The following list of recommendations that supermarkets could put in place to encourage a more sustainable future was extracted from the above mentioned NCF report:

- Be more proactive with offering consumers more environmentally-friendly options, and promote these with clear and understandable information.
- Promote local agriculture and organic farming through more procurement from and support for small, local farmers. This can suitably be implemented by the recommendation that a more regionalised buying system needs to take place. Each manager can take it upon themselves to be socially aware of the living conditions of the egg-laying hens and make buying decisions accordingly.
- Commit to long-term reduction of carbon emissions and energy consumption.
- Adhere to sustainable seafood guidelines by sourcing only fish stocks that are plentiful.
- Educate consumers about fair trade products and provide a greater choice of these ranges.
- Be open to engagement with local consumer groups on campaigns, awareness and education about sustainability issues.

The parallels between the findings and recommendations of the grocers’ survey and the NCF report become evident and in contemplation of the status quo situation of the retailer and their

⁵² www.animal-voice.org/ and http://www.activist.co.za/ag3nt/system/campaign_woolworths.php are prominent stakeholders in recent times” (McLaughlin, 2011).

relationship with producers, it is difficult to see how the transition to free range can be made. The lack of meaningful market regulation, the lack of consumer awareness surrounding role of retailers in the retailer-supplier relationship and global price pressure are only a few more relevant reasons as to why battery cage eggs have prevailed and will continue to do so.

In conclusion, the NAMC (2009: 37) urges the Minister of Agriculture to communicate the findings of their report to the Competition Commission in order for it to consider an investigation and the merit of introducing new rules that govern the relationships between suppliers and retail chains, especially in order to prevent the restrictive practices by the retailers and the associated costs to suppliers.

Retailers also use and advertise low prices as a marketing advantage. They have a very strong incentive to keep prices low to create an advertising platform. Regardless of demand for the product retailers would keep basic goods (including eggs) cheap as a consumer-attracting tool – consumers use these specific prices to determine where they are going to shop. Egg market is the victim of an aggressive low-price marketing strategy, where retailers assume consumers compare prices to discriminate between supermarkets.



4. CONSUMER SURVEY



This component of the thesis was intended to provide some insight into the mind of the consumer; more specifically, what the consumer deems most important when purchasing animal products and in particular, eggs. This issue lay at the heart of the study, alongside an attempt to establish whether consumers were willing to pay for products with inherently higher animal welfare. The weight of the consumer's role of this theme should have become increasingly obvious throughout the previous chapters –this group appears to be championing the improvement of animal welfare. It is imperative to note that this is not an extensive contingent valuation method survey - it is a small trial run intended to explore the potential for such a study in the future.

4.1. Survey Methodology

An ideal study would use contingent valuation methodology (CVM), and follow the NOAA guidelines in eliciting respondents' willingness to pay (WTP) for improvements in animal welfare. Constraints of budget and time have left a survey only loosely based on this study method, and more experimental in the way that it has been formulated. As a result it cannot claim to be anything more than an exploratory look at people's WTP as elicited by the CVM.

The CVM is considered to be a relatively straightforward and accommodating nonmarket valuation method that is extensively used in cost benefit analysis (CBA), which in itself is most helpful in public management and planning (Venkatachalam, 2004). It is especially helpful when extracting the preferences people have regarding public and environmental resources (Bennett and Tranter, 1998) and entails making use of surveys to deduce how willing the respondents of the questionnaire are to pay for programs or projects that are usually hypothetical in nature. In this sense, the "values revealed by respondents are contingent upon the constructed or simulated market presented in the survey" (Portney, 1994: 3). Studies, such as the one conducted by Bennett in 1996, have shown that this methodology can also be very helpful in discovering what value (non-market) people place on animal welfare, which is especially useful to the societal policy makers and others interested in the matter (Olesen *et al.*, 2000).

Although CVM is popular as a valuation method, the soundness of the method was discussed among eminent economists on the National Oceanic and Atmospheric Administration (NOAA) panel, which, according to Arrow *et al.* (1993: 42), determined that "CV studies can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive-use values, when they adhere closely to the detailed guidelines specified by the panel". This survey study does not follow the NOAA principles for conducting a CVM elicitation – both time and funding were restraining factors to a more credible and thorough examination. The need for a dichotomous choice format (recommended for a more accurate WTP result), and interpretation using maximum likelihood techniques means very large samples. A large, random sample size would have demanded interviewers, associated with numerous costs including travel costs and stipends.

In addition to this, because nothing like this has been conducted in South Africa previous to this thesis, this dissertation can rather be considered as an exploratory or pilot investigation, in

preparation to a more extensive study that could be conducted and follow these NOAA guidelines.

4.1.1. Survey Design

This survey (Appendix B) was specifically designed with the general South African egg consumer in mind. Making use of a stated preference method, the survey assesses the value that respondents place on the welfare of egg-laying hens. As briefly mentioned above, the survey was especially formulated to elicit the following main threads: whether individuals are concerned with animal welfare when making animal product purchases, and eggs in particular; whether they are willing to pay for a more 'ethical' product, or free range eggs; whether this WTP changes with further information about the two egg varieties; and the determinants of public support for legislation that would ban the use of the battery cage in egg production.

The questionnaire was developed and the survey was conducted predominantly online from 19 May 2011 to 19 June 2011, where it could be accessed by respondents any time of day. During this time period a number of surveys were also collected manually and respondents were asked to fill in the survey in their own time. The distribution of both the online and the manual surveys were dependent on the extent of personal networks and referrals. A record of refusals could not be kept because of the methods made use of in collection of the responses.

4.1.2. Justification for Research Method

The methodology utilised in this study has largely been based on a number of studies that have been conducted in recent years that were concisely examined in the literature review (Chapter 2) previously. As Bennett (2003: 93) writes that the CVM is especially helpful in the attempt to measure the benefits of a potential legislative policy, as shown by his example of banning battery cages in order to lead to the betterment of egg-laying hen welfare. As a result of this, based on the previous studies use of this methodology, as well as other theoretical justifications, the CVM was employed in the consumer survey in this thesis.

Carson *et al.* (2001: 197) articulate that, "Even if all of the survey related issues to valuing a public good can be overcome, CV is not without its limitations", but according to Venkatachalam (2004: 19), "it may be observed that...even though CV had certain limitations, this method is a promising method and it could be used to derive useful information". Certainly, the NOAA panel appeared to highlight as the crux of their report, "...the Panel concludes that CV studies [applications of the contingent valuation method] can produce estimates reliable enough to be the starting point of a judicial process of damage assessment, including lost passive-use values" (Portney, 1994: 8) Despite its popularity among academics, researchers and public organisations who use it credibly, many individuals reject CVM as a technique, especially in light of the numerous limitations inherent in it as a study method. The limitations of this method all compromise the value that is stated by the respondent – irregularities exist between stated and actual value - and can include 'embedding' and the 'warm glow' effect to name only two.

The CVM “would appear to be the only method capable of shedding light on potentially important values”, especially in that “there is simply no behavioural trace through which economists can glean information about lost existence values” (Portney, 1994: 8). In addition to this, advocates of the CV method believe that by directly and candidly asking individuals, there is the extended “potential to inform about the nature, depth, and economic significance of these values” (Portney, 1994: 8).

4.1.3. Research Tools

In designing and gathering the data for this survey, a well-known internet survey design site, Survey Monkey⁵³ was used. This format made it possible to distribute the survey to consumers online, mainly by means of social networking. In the analysis of the data that was gathered by this CV method, both Stata and Excel were utilised. The former was used for the regressions conducted and the latter for the more basic descriptive statistical work.

4.1.4. Limitations of the Study

Being aware of the potential biases inherent in this study methodology, it was considered vital to put a great deal of effort into the design of the survey of this particular study, within the time and funding constraints. This was especially the case because various types of errors and biases would affect the CV results, which would affect the relevance of the study in light of policy-making implications; in light of the need to test whether data is reliable and valid, Smith and Osborne (1996) suggest that the survey account for and carry out ‘internal consistency tests’ (Venkatachalam, 2004). The major problems inherent in this methodology, such as the problem of ‘warm glow’ and ‘embedding’⁵⁴ are accounted for in the data analysis below.

As is inherent in the survey technique, a number of problems were encountered that could potentially have extensive implications on the data retrieved from this study. As is expected from a survey requiring public opinion, the response rate is likely to be low, especially when making use of an online facility. In addition to this, the responses were dependent on a personal network – only a certain ‘type’ of person took the survey, and it seemed likely that only persons concerned with animals welfare would be likely to respond. The WTP information was not elicited from a random sample and as a result of this, no credible regressions could be conducted with the collected data. Connected to this, is that the WTP figures cannot claim to reflect the WTP as to be expected from the overall South African population. If respondents were unfamiliar with the way in which questions were asked, no platform say was provided for them in which to clarify their understanding of the questions – this created scope for misunderstandings and resultant incorrect responses. In terms of future research, adequate funding and sufficient time allocation could provide for a more influential

⁵³ [http:// www.surveymonkey.com](http://www.surveymonkey.com)

⁵⁴ According to Venkatachalam (2004), embedding can be present in WTP data because of the varying extent to which the good itself (here, it will be eggs) will form part of another good or group of goods (in this case, animal products as a whole). The warm glow affect, also accounted for briefly in this study, refers to the term ‘yeah’ saying. This is typically when individuals responding to the survey automatically say ‘yes’ when answering WTP questions. This is mostly as a result of the fact that respondents feel that are purchasing ‘moral satisfaction’.

study. A different survey technique (interviewers visiting households) might be advisable, to a range of respondents more indicative of the South African population in terms of demographics and socio-economic status. This will enable the study to then extrapolate the total economic benefits of such proposed legislation, with a CBA environment. Here, institutional influence might be useful, especially in terms of the exposure of the supply chain of the egg industry, to investigate the increase in production costs between the two production schemes. It will also be useful, because this topic is based on public opinion and emotion, to have a smaller, more in-depth discussion group with selected respondents to gain greater insight behind certain responses. In addition to this, because CVM is considered controversial, it might be helpful to test the validity of the obtained results, especially in terms of actual versus hypothetical WTP of the said respondents.

Despite the biases found in the CVM, it is considered key when extracting non-market values, as is attempted by this specific survey. There does, however, appear to be an agreement that potential exists for method development and improvement and that methodological tests should accompany any empirical data analysis (Olesen, 2000). More specifically and relevant to the subject matter at hand, Bennett and Larson (1996) imply that the CVM can be made use of in obtaining values around animal welfare, but require that problems of warm glow, embedding and the lack of respondents' recognition of substitute or complementary goods be explicitly and formally dealt with in the study. Ultimately, by eliciting the WTP of individuals within a sample, "it is important that such estimates are derived from carefully designed surveys and that the estimation method allows for various biases" (Bennett, 2003: 93). In response to such limitations, multi criteria decision analysis (MCDA) could be utilised as an alternative methodology.

4.2. Data Analysis

The following sub-section examines the data that was collected in the online survey as outlined above. This will provide insight into simple descriptive statistics, a few econometric regressions and a self-compiled index. Each of the survey questions is analysed in turn initially, and then any noteworthy relationships between consumer socio-economic characteristics and their willingness to pay for ethically produced eggs are discussed thereafter.

4.2.1. Description

After cleaning the data, the total number of workable responses amounted to 119 for the descriptive part of the analysis, which was conducted by making use of Excel. It is important to bear in mind that this is not a statistically random sample, as should be apparent from the concise analysis of the respondents below. Because of the nature of the methodological instrument used, as highlighted above, this sample of individuals is not a true or accurate reflection of the South African population, which will limit the significance and applicability of the data. Appendix C, attached, provides insight into the range of individuals who completed the online survey, which should be taken into consideration when examining the results that follow. It should be stressed that those that are concerned with the welfare of farm animals

were more likely to complete this survey voluntarily, making a description of the respondent profile valuable. 66% of respondents of the online survey were female, in contrast to 34% male respondents. Almost half of those that took the survey were between the ages of 24 and 29 years old, where the next biggest cohort was those in the 30-39 age bracket. This is reiterated in that there are, on average, 2 adults and 0 children under the age of 18 in the households of the respondents. In terms of ethnicity, two thirds of the respondent group were white followed by 18% of the respondents who were Indian. Interestingly, 41% of the sample was recorded as having a Bachelor's or Honours University degree, 24% with a diploma which was closely followed by 19% with a Master's degree or above. This level of schooling as most certainly reflective in the registered income brackets – 23% earned R35 001 and above, followed by 16% earning R27 001 – R30 000 and the remaining respondents were fairly equally split between the other income brackets. As a consequence of this profile, the overall results should be reflective of relatively educated, affluent individuals.

In examination of the survey responses, when considering what consumers regard as important when making animal product purchases, it is 'Taste' that comes up as top priority, where 64% of respondents claimed to 'Always' think about this when buying general animal products. This was closely followed by the 'Quality' factor (62%), where the median scored on both of these factors were 5⁵⁵. The factor given the lowest priority was 'Advertising and packaging' (only 8% of respondents 'Always' considered this and 15% 'Never' considered this, and the only factor listed with a median of 3). The table below depicts the data extraction of the two factors 'Price' and 'Animal Welfare', the former of which has a mean of 4.07 and the latter, 3.42 and both a median of 4. Interestingly, however, approximately 11% of respondents claimed to never consider the welfare of the animals in contrast to only three individuals to never think about the price thereof. Similarly, about 17% of individuals seldom considered animal welfare whereas only 4 respondents (3%) would do so about the price. 36% always considered price versus 30% who always considered animal welfare. This clearly shows that the 'Price' factor takes preference over, or rather, is considered more important than 'Animal Welfare'. Interestingly, the price of the product here is trumped by the factors mentioned above within this sample – this is in contradiction to the impression that grocers have of consumers, as investigated in Chapter 3. Consumer preferences, here, maybe be more indicative of those with higher incomes as opposed to the average South African consumer.

Table 4.1: Consumer Preference for Price and Animal Welfare of Animal Products

1 (Never) – 5 (Always)	Price (counted responses)	Animal Welfare (counted responses)
1	3	13
2	4	20
3	23	26
4	41	24
5	48	36

⁵⁵ Respondents were asked to rank certain characteristics that they think about when purchasing general animal products from 1 (Never) to 5 (Always).

Parallel to this question, Vermeulen (unpublished PhD thesis, University of Pretoria, cited in The Green Times, 2011) conducted a study⁵⁶ looking to provide insight into the factors consumers consider when making fresh meat and vegetable purchases. “Consumers consider search attributes like the look and packaging of food; they consider experience attributes like the taste and they consider credence attributes, which usually means trusting a third party to tell them that it is good quality” (The Green Times: 2011). Vermeulen concluded that consumers first and foremost consider: price, expiration date, freshness and appearance of the product itself, even though the consumers might be considered more ‘sophisticated’; where the factors that take least consideration is whether the product is high in animal welfare or free range, yet organic products and the traceability of the product ranks higher for the discerning group of consumers. One assumes that for many consumers free range also implies better quality and taste rather than improved welfare. At any rate, there is probably some colinearity between these. More specifically, the survey found that consumers prioritise the following qualities when considering the following three products:

1. Beef steak: Price (26%), Expiration date (21%), Appearance (18%), Quality guarantee (15%) and Fat content (7%).
2. Chicken: Freshness (18%), Expiration date (16%), Price (16%), Clean meat (10%) and Appearance (9%).
3. Tomatoes: Freshness (30%), Price (14%), Expiration date (10%), Firmness (8%) and Quality guarantee (8%).

In addition to this, the survey study showed that “85% of consumers understood what organic food means. Only 66% understood what free range means. When asked why they buy organic or free range, the consumers answered for health, nutrition, taste or better appearance. South African consumers are mostly self-centered; they do not make decisions based on the notion of ‘greater good’” (The Green Times, 2011). In addition to this, there is the belief that only a handful of the 17% of consumers who tested to be aware of the environment actually manage to make the connection between the food they consume and the environment. Adding to the complication is that case in point that South Africans do not trust labels found on products – only 43% of surveyed consumers believe a product is organic when it is labeled as such. “There is also a low level of understanding of logos and labels among consumers. The SABS logo and the Heart Mark are understood best. In Gauteng, consumers prefer to get their food information from magazines, newspapers and advertisements. In the Western Cape they trust flyers, word of mouth and food labels” (The Green Times, 2011). These findings around the lack of knowledge and regional opinion clearly exacerbate the issue of trying to encourage South African individuals to purchase higher welfare products such as free range and organic.

In returning to the survey results, respondents were asked whether they had any concerns regarding the treatment of farm animals that would potentially influence purchasing choices. The aim here was to roughly determine whether those sampled were aware of some of the

⁵⁶ This study consisted of a 20 page questionnaire distributed to a sample of consumers and broadly dealt with the following: why they buy a product, where they make the purchases, and why at that specific place.

debate around animal welfare in farming. 32% of respondents did not have any concern, whereas 81 individuals (68%) said that they did. Some of the main concerns raised were about abattoirs and inhumane killing methods, the treatment and living conditions of the animals, force feeding and use of hormones in feed.

Respondents were then asked to consider the following question: How strongly do you agree or disagree with the view that farm animals feel pain and are affected by it in the same way as humans? 42% of respondents could ‘Agree’ with this statement, followed by 38% that ‘Strongly agree’. Not one individual could say that they ‘strongly disagreed’ with this, but approximately 11% disagreed. Similarly, in considering whether it might wrong to eat animals that might not have had a good life, the median was that people claimed to ‘Agree’ with this statement. Five respondents ‘strongly disagreed’ with this and a further 11 (9%) disagreed. A significant 26% of individuals hold ‘No opinion’ to such a statement, which could be indicative of a few possibilities, such as that they consciously choose to be ignorant to the animal welfare component to their animal products, that they avoid considering the possibilities of such a statement to avoid dealing with it or they may never have thought about this before as a result of cultural, educational or societal reasons. “The vast majority of the public has an equivocal attitude to the industrial use of animals: they make use of the products of that industry, but are nevertheless a little sickened, a little queasy, when they think of what happens on factory farms and abattoirs. Therefore they need to arrange their lives in such a way that they need be reminded of farms and abattoirs as little as possible” (Coetzee, 2011⁵⁷, in Kendal *et al.*, 2011: 27).

‘Size of eggs’ and ‘Price’ are the factors that are considered most frequently when purchasing eggs, whereas the ‘Packaging’ and ‘Egg shell colour’ component to eggs are considered with least frequency. Once again, it is interesting to consider price versus animal welfare because of the intrinsic trade-off between welfare and price in terms of free range and battery cage eggs. ‘Price’ has a median of 4 and the welfare of the egg-laying hens, 3. A significant 42% of respondents always consider the price of the product in contrast with 30% who always consider hen welfare. Double the number of individuals never considers the welfare aspect as opposed to price. This analysis again suggests that price is deemed more important than the welfare of the animals.

Table 4.2: Consumer Preference for Price and Animal Welfare of Eggs

1 (Never) – 5 (Always)	Price (counted responses)	Chicken’s Welfare (counted responses)
1	10	20
2	17	21
3	17	20
4	25	22
5	50	36

⁵⁷ An extract from Nobel laureate JM Coetzee’s speech at an exhibition, as cited in Gold (2011).

The majority (68%) of respondents claimed that they know the difference between the living conditions experienced by free range and battery egg hens. This is a relatively large majority and could be a biased result though might not be – it could be because individuals might genuinely feel that they know the difference, but do not actually, or that they do not want to seem ‘uninformed’ during the survey, so they might claim that they do, when in actual fact they do not know. In retrospect, the manner in which the question was framed may have influenced the outcome. It might have been interesting here to, if they responded with a ‘yes’, to ask people what they feel in their own words each of the egg variety’s living conditions actually entail – this might have eliminated this bias, but would have added to the length of the survey. For future research, smaller core discussion groups could be conducted to elicit such detail.

Following from above, the next question requested that respondents express the degree to which they agree or disagree with the statement: “I feel sufficiently well-informed’ about the welfare of egg-laying chickens.” Approximately 38% of respondents agreed with this statement (and a further 10% ‘strongly’ agreed), and felt that they have been given sufficient knowledge to carry out educated purchasing decisions. Interestingly, and in slight contradiction to the previous question’s analysis, roughly 40% of individuals either ‘strongly’ disagreed or disagreed with this statement, feeling like they have been kept in the dark about how the chickens are treated. In line with this question, respondents were asked to ‘rank’ how good the welfare of egg-laying hens under the two varieties. In terms of the battery cage variety, roughly 24% claimed that they did not know about the living conditions of the hens. 47% acknowledged that the living conditions are ‘Very poor’, with a further 19% of individuals think that the conditions of battery hens are ‘Poor’. In contrast to this, 25 individuals (21%) do not know the conditions of free range hens, and interestingly, 24% believe welfare conditions of these hens are ‘Average’ (compared to 8% for battery hens). The majority of 39% believe that the conditions are ‘Good’. Further, in minority, only 2 individuals believe that the conditions for battery hens are good to very good and 7 believe the conditions for free range hens are poor to very poor. Once again, here, individuals might be able to identify that free range hens might have higher welfare than battery cage hens, but might not identify the extent of the difference or identify the exact distinction in living conditions.

Individuals source most of their information on animal welfare issues through ‘Friends and Family’ – it scored highest with a mean of 2.92⁵⁸. ‘In-store information’ and ‘Product label’ ranked lowest, indicative that if welfare issues are to be communicated to customers, these two forms of ‘education’ would be least effective. A consumer movement towards more ethically produced products would have to be initiated by information dissemination, with a strong reliance on such to spread by ‘word-of-mouth’.

The next question was included to determine whether respondents believe that their ‘voice’ as a consumer ‘counts’ in the sphere of the supermarket. This was asked in order to gauge the consumer perspective of the grocer’s opinion as evaluated in a previous chapter, where managers claimed to be very accommodating to the demands of consumers – in order to be

⁵⁸ Respondents were asked to rank their sources of information, Product Label, In-store information, Internet or websites, Mass media or Friends or family, from Never (1) to Always (5).

competitive they would stock whatever products consumers' request. Half of the respondents believe that the grocery stores are 'Average' when measuring sensitivity to their consumption needs. 22% believe that grocers are 'Hardly' sensitive to their needs; with a further 8% 'Not at all' – in contrast to 17% who feel that grocers are 'Above average' and 3%, 'Greatly'. Thus, it becomes apparent that a gap exists between the grocers and consumers - grocers could be doing more, or making a more concerted effort should customers make enquiries about existing or new products. On the other hand, it might have been interesting to gauge how many of these respondents had ever asked their supermarket manager to carry a particular line of goods. If not, this question alludes to their expectation of the cooperation of the managers.

The following question ties in neatly with the two previous ones, asking whether a welfare assurance or grading mark would be helpful in terms of making welfare decisions when purchasing eggs – as an indication on the label about how well the hen has been treated while laying the eggs. A total of 54 individuals (45%) declared that such a product label would be very helpful in making their egg-purchasing decisions, followed 30% of those that said it would be reasonably helpful. This is in slight contradiction to the finding that the product label is one of the least helpful methods of conveying information on welfare issues to consumers.

In a recent Big Issue street magazine (14 October 2011 – 3 November 2011: Issue #187 Vol 15), in response to an article previously published and discussed herein on the Consumer Protection Act and its implications for the factory farming animal product market, the 'sms poll' was made available. The poll asked: Do you want your meat labelled to show whether the animal was factory farmed? The response was as follows: Yes – 87% No – 13%.

It is important to treat such poll information with caution. The price attached to sending a 'vote' by text is R1.50. It is natural that some individuals would not want that deduction from their airtime. Also, it is more likely that you would make such an effort if you are a person who cares for the cause of factory farmed animals and their products. In addition to this, the sample size of the poll is unknown. The poll was obviously directed towards individuals who can afford the Big Issue magazine – and by extension, individuals who have cars, purchase them though vendors at traffic lights and are from the higher socioeconomic group in society. Certainly, the fact that they are Big Issue readers implies that the respondents would have been from a segment of the population already predisposed to welfare issues.

In this thesis survey, the overwhelming majority, 74% of the respondents claimed that they would be willing to pay (WTP) higher food prices on all animal products if that would guarantee improved welfare for all farm animals – the average amount that these individuals would be willing to add onto their weekly household food bill to ensure that the concerned farm animals get improved welfare is R81,26. The median of this measure is R50, indicative that the observations are skewed to the right (positive skewness) and that most of the observations fall below the mean and that outliers to the right exist within the data. Individuals who answered 'No' to the questions, naturally have a WTP of 0. Then, respondents were asked whether they would be willing to pay a higher price for eggs if it was necessary to increase the welfare of egg-laying hens, where 71% said 'Yes' – slightly less than the 74% for all farm animals. This difference could potentially be that some individuals do care for the other farm

animals only, and are not particularly concerned with the welfare of the hens. The mean WTP for this improvement in welfare over and above the approximated price of R9,50 for 6 battery eggs, is an estimated R5,34 (median of R3 - implying that these WTP observations are also skewed to the right). This implies that, on average, people of the sample would be willing to pay R14.84 for 6 non-battery cage eggs, such as free range or organic eggs that are associated with higher animal welfare. This total price is higher than the price of free range and organic eggs in the market, and so, on average these individuals should already be purchasing the higher welfare varieties.

Following socio-economic data questions, the household monthly income was broken down into how much these households spend on animal products. On average, households spend R698,70 on their weekly food bill (approximately R2 792 per month) – with a median of R500. On average, quite a substantial portion of this food bill goes towards the purchase of animal products, with a mean of R269,12 and a median of R200. The average household in this sample purchase 9.45 eggs per week, with a median of 6 eggs. In other words, in total, the 119 households purchase 1124 eggs per week. Of these, respondents claimed that they purchased the following varieties: 20% battery cage eggs, 43% free range and 38% do not know the egg variety they buy. The number of the survey respondents purchasing free range was more than double that knowingly buying battery cage eggs – this is quite significant; especially considering the free range market is a small, niche one. This could potentially be as a result of respondents not telling the truth about the eggs they do in fact buy, or alternatively, be truly indicative of a sample with a relatively high income. The significance of the result is reduced by the high proportion of the respondents who do not know what eggs they purchase, indicating that they regard eggs as homeneous; consequently common labelling details such as “free range” or “grain fed” are ignored. It is interesting that despite the fact that most questioned consumers claimed that they do know the difference between the egg varieties (and how the hens are treated), 38% of the respondents do not know whether they purchase free range or battery cage eggs. This supports Vermeulen’s findings as discussed above as well as Bennett and Blaney (2003: 92) who highlight that a consumer poll, as conducted in the UK (by the Market and Opinion Research International Limited in 1999), revealed that “over 80% of consumers did not realise that eggs labeled as ‘farm fresh’ and ‘good country eggs’ were from hens kept in battery cages”. Such a description indicates, however, that egg producers want to keep up the image of wholesome old fashioned farm production methods. This could also a cause of the high declaration of free range eggs being consumed by the sample. Wherever individuals claimed to purchase battery eggs, the reason behind this was that they are generally cheaper and more readily and widely available in all shops; and where individuals purchased free range, they did so mainly for ethical and health reasons as well as an improvement in taste.

The following discussion then relates to the questions that were asked after the information ‘exposure’ about the welfare differences between the hens that lay battery cage and free range eggs. This was done in order to test whether consumer WTP would change after they knew more about the living conditions of the hens under the two varieties.

Once again, respondents were asked whether they were aware of the difference in conditions between free range and battery cage hens. Consistent with the responses from before the

information, 74% said that they knew the difference existed whereas 26% claimed that they did not. In reaction to the survey-supplied information, 63% said that it would influence the type of egg they would purchase. This is interesting, considering 43% of the respondents claim to already purchase free range eggs. In addition to this, individuals might feel like they need to say 'Yes' to appear compassionate to the welfare of the hens but might not actually change their behaviour.

A new piece of hypothetical legislation was then put forward to the respondents; the phasing out of battery cages in egg production by 2015, where after the use of battery cages in egg production will be banned. The overwhelming majority of the respondents, 82% of the sample said that they would be in support of such legislation, despite being alerted about the potential increase in the price of eggs. 5% of individuals would be unsupportive of this piece of legislation and 13% were indifferent. In support of this legislation, respondents were then asked directly whether they would have a willingness to pay for eggs in support of such legislation and in light of the information exposure; would the respondents be prepared to pay higher egg prices if that is considered necessary to phase out the use of battery cages. 83% stated that they would be willing to pay higher egg prices – once again, the mean WTP for this is R6. 95 and median is R5. These amounts are considered to be a hen welfare premium, or the value that the respondents will place in knowing that the hens have improved living conditions. In allowing for the respondents to have a look at the educational material provided in the survey, 15% of the sample (18 people) changed their WTP. The table below provides a brief overview of the WTP for an animal welfare premium within the sample. Clearly, as indicative of the 19.02% increase in WTP as a result of the information exposure, there will be some value in an educational campaign.

Table 4.3: Summary of Consumer's WTP

Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
R14,84	R16.45	R1,61	19.02%

It is important to reiterate that this data may suffer from a number of intrinsic biases. In particular sample selection bias (which was inherent in the survey methodology and relates to who actually responded to the questionnaire), and moral selection bias, in that the respondents may have provided answers that they believed would be more favourable to the interviewer – people have a tendency to provide answers that they feel accord with society's moral fit. These biases would be problematic if the results were to be utilised as the basis for an egg pricing policy, but as pointed out previously, the survey was conducted to merely establish the opinions of individuals and gauge whether personal views are shared by a broader spectrum of people.

In an attempt to determine the accuracy of the stated WTP (in contrast to actual WTP), a series of questions, as utilised by the Bennett study (1996) were then asked of the respondents about how closely a series of statements related to their feelings in terms of their stated WTP⁵⁹. The table below provides a record of the mean scores. It becomes apparent that the individuals

⁵⁹ Statements were scored from 1 ("Not at all true of my feelings") to 10 ("Very true of my feelings").

within the sample feel quite passionately about the fact that legislation is necessary in this cause – that government intervention is imperative. Statement 1 addresses the ‘warm glow’ issue that is innate in the CVM, where because this score is so high, indicates that a high degree of warm glow is present in the recorded WTP. Furthermore, despite being asked about egg-laying hens in particular, there appears to be a high level of ‘embedding’ in the data as is reflected in the average score of statement 2. Because of these two latter statements, it is likely that the WTP of the sample are inflated and not the most accurate reflection of actual WTP and should be used with caution.

Table 4.4: Summary of Statements Regarding WTP

Statement	Mean Score
1 My willingness to pay is like a charitable donation to a worthy cause.	6.01
2 My willingness to pay is not just for chicken welfare but for farm animal welfare generally.	7.11
3 Legislation is necessary to ensure that no chickens are kept in battery cages.	8.03
4 My willingness to pay reflects my personal satisfaction from not consuming battery eggs.	6.85
5 My willingness to pay reflects my belief that other consumers will continue consuming battery eggs despite my contribution.	6.32

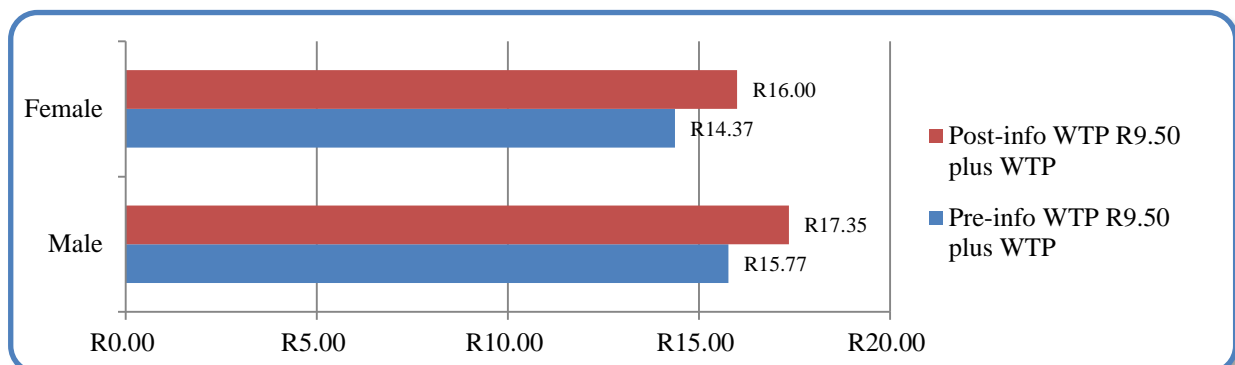
4.2.2. Discussion

In light of the gathered and discussed data, what becomes interesting here is to observe the relationships between socio-economic variables and WTP as well to investigate the profile of those 18 individuals that changed their WTP from R0 to a positive Rand value after being exposed to information. Each of the factors will be discussed in turn by means of tables (Appendix C).

4.2.2.1. Gender

Of the 18 individuals who changed their WTP, 12 were female and 6 were male. This, together with the data from the table in Appendix C, implies that women are more sensitive to such information exposures. Having said that, it is men who have greater absolute WTP values (by over R1 in both pre- and post-information), but it is women who made the greater change to their amounts.

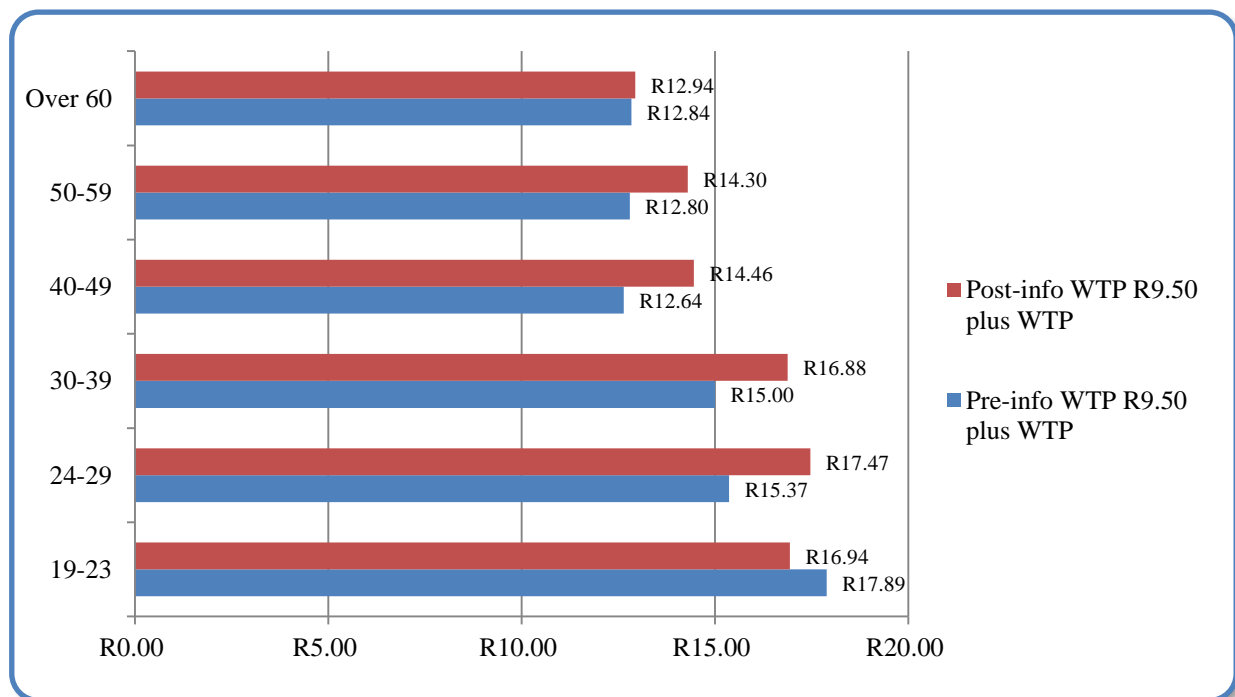
Figure 4.1: WTP and Gender



4.2.2.2. Age

As can be seen from the bar chart below, there appears to be an inverse relationship between WTP and age. In addition to this, the individuals captured in the oldest two cohorts were also the least sensitive to the information exposure (where there is the least difference in pre- and post-WTP).

Figure 4.2: WTP and Age



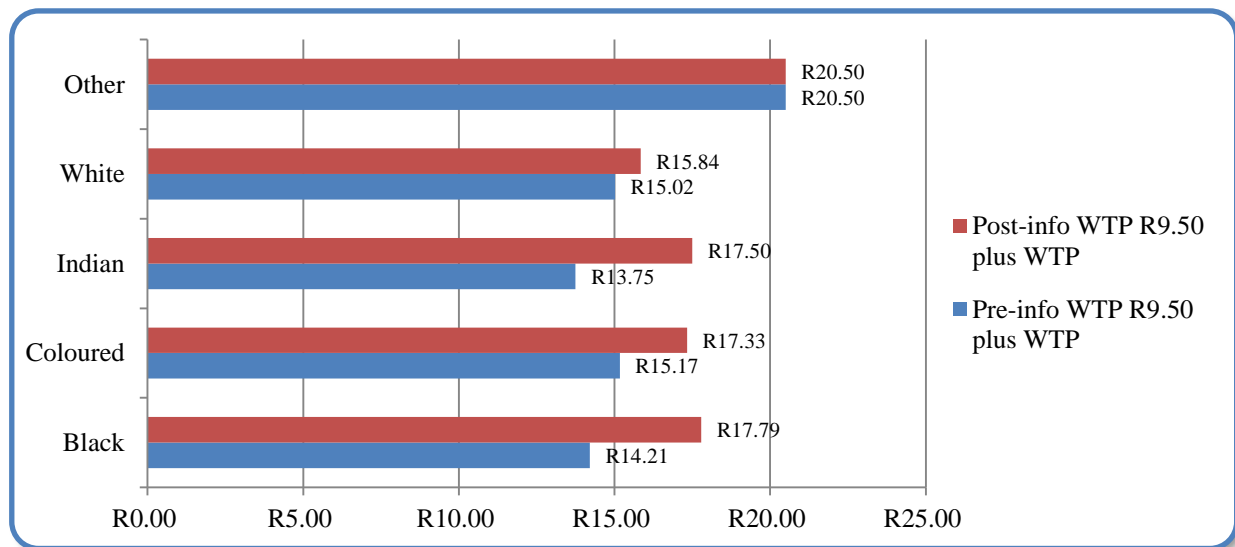
4.2.2.3. Race

The bar chart below shows the WTP figures for the individuals within the various race groups. Given the income levels associated with these race groups, and the powerful role that socio-economic characteristics have in determining egg preferences, the results are unexpected.

Those recorded in the 'Other' group had the highest WTP but were also completely insensitive to the provided information. This could potentially also be because of the fact that the respondents in this group knew about the living conditions of the egg-laying hens and resultantly, the information did not change their answer. There were, however, only 2 respondents that classified themselves as 'Other' – this could result in bias. Individuals from the white cohort were relatively insensitive to the information, where their WTP changed by a mere 82c, ending up with the lowest WTP of R15.84, which was roughly R2.00 less than the other race groups. This could mean that this race group is comparatively less empathetic to animal welfare. It should be noted, and might help in explaining the WTP figures, that only 6% of the respondents were Black, which also could have resulted in bias and might not necessarily be a true reflection of the overall Black population, as expected. In addition to this,

these individuals' income profiles were not reflective of the national expectation (4 of these respondents earned more than R20 000 pm).

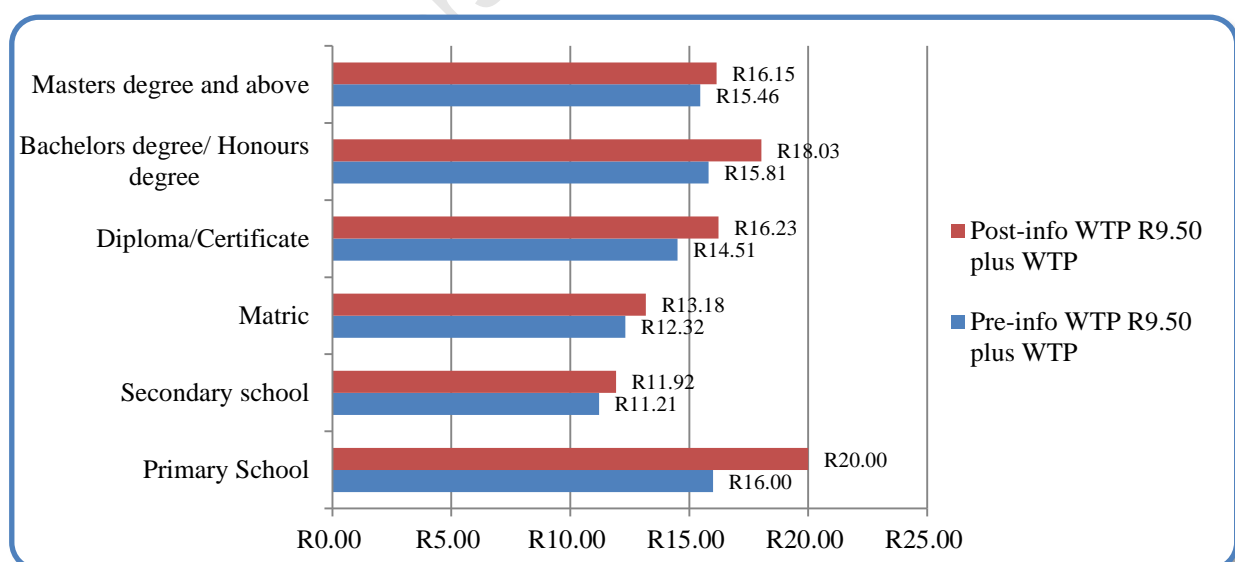
Figure 4.3: WTP and Race



4.2.2.4. Education

Apart from the potential outlier in the Primary School education group⁶⁰ (with a significant R4.00 difference in pre-and post-WTP), there exists a definite positive relationship between the level of education and stated WTP, but interestingly, this pattern is broken by the highest educational cohort, Master's degree and above.

Figure 4.4: WTP and Education

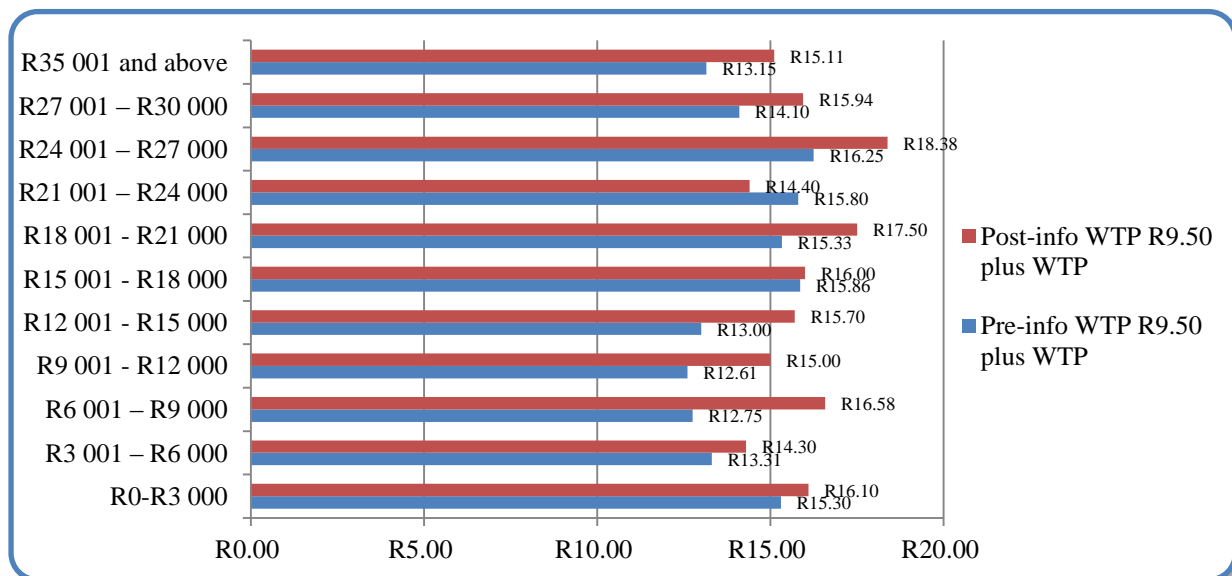


⁶⁰ This mean WTP is abnormally high because of an individual in the sample who gave a WTP of R100 on 6 eggs – since individuals typically in this group have the lowest ability to pay, this raises questions regarding the accuracy of their answer. Alternatively, the individual did not read the question correctly. If this individual is excluded from the sample, the first WTP drops to R15.30 and the second to R16.10.

4.2.2.5. Income

In examination of the data and the resultant table below, no pattern (as suggested by the AWKC theory as discussed in the Literature Review of this thesis) becomes evident. In addition to this, it is generally expected that the greater the income of the individual, signifying a more sophisticated consumer, the greater the awareness around animal welfare issues and thus, a greater WTP for the free range variety. Interestingly, as shown by a STATA regression⁶¹, there exists a negative relationship between income and WTP until gender, race and age are controlled for. Thereafter, it increases WTP as expected. The results and variable explanation are provided in Appendix C.

Figure 4.5: WTP and Income



4.2.3. Caring Index

By means of the data that was gathered by means of this survey, a simple index was compiled that is indicative of the level of ‘caring’ people within the sample have for the welfare of farm animals and egg-laying hens in particular. This index is simply a sum of all their answers that they were required to answer 1-5 or 1-10, making the highest possible index score 190 (if the individuals answered 5 or 10 for all applicable questions). The weighted index was the actual individual’s score divided by 190 and ranged from 0 to 1. The closer the weighted index to 1, the more the individual cares for farm animals, making it the Gini Coefficient of animal empathy. The average weighted index was calculated at 0.63, indicative that the surveyed sample was relatively compassionate.

⁶¹ It is realised that economic regressions could not be made use of here in terms of a prediction model to be applied to a greater part of the South African population, since this data sample is not a random sample. The data, or rather, the findings from the data must this be used with caution and can be said to be true for the sample only, even though these are South African citizens. Because of the fact that the statistical model used here has such limited use and meaning, this model and other models created in the STATA programme is not discussed in detail. Again, it is reiterated that the purpose of this exercise was merely an exploratory one – an attempt to see if any interesting relationships arise from the data variables.



5. CONCLUSION: THE WAY FORWARD



This chapter aims to make recommendations for both policy and future research purposes that are broadly based on the findings of this thesis and previously discussed literature. It becomes clear, in examining the data from the previous chapter, as well as perusing collective information sources that South Africa has a long way to go in animal welfare improvement.

5.1. Monitoring and Evaluation

“Although retailers have their own enhanced protocols and standards in place, there are presently no audits undertaken or standards implemented in conjunction with leading / statutory animal welfare bodies in South Africa. The National Council of SPCAs is currently in discussions with leading retailers Woolworths and Pick n Pay, to set up protocols and audit systems to ensure welfare friendly standards and introduce consumers to welfare friendly foods that will benefit animals raised for food consumption. We are hoping to reach agreement on the concept and its application soon and will keep you informed of developments” (NSPCA, 2011).

An interconnected issue came to light when the lack of inspection of producers farming methods was discussed in chapter 3 – no central governmental, or other body has strict monitoring over the actions of the farmers themselves, so that even though the producers may claim to adhere to the Codes of Practice, this may not necessarily be the case. It has been largely left up to the NSPCA to do this (as well as the supermarkets to ensure their suppliers adhere to certain self-set standards), and due to the non-profit nature of this organisation, it is an almost impossible task to oversee the standards of all the farms nationally. It may be beneficial to provide governmental funds to the NSPCA to conduct such audits on a regular basis, or to set up a division within the Department of Agriculture to undertake this task. It will also be helpful, as mentioned in the extraction above, for the NSPCA to liaise with all grocers and encourage them to demand higher welfare products from their suppliers and to implement their own audit systems.

5.2. The Compromise

The CWIF (2004) have put identified a number of few all-encompassing issues that should be examined irrespective of whether or not battery cage production get banned, because there is still a distinctive lack of a concrete universal minimum standards for the manner in which eggs are produced. Some of these issues include, as extracted from the 2004 CWIF report:

- Use of appropriate breeds. Breeds that do not suffer from diseases already mentioned, brought about by high levels of production. Breeds that are more adapted to free range conditions. Breeds that are less susceptible to feather pecking.
- The banning of beak trimming that causes both acute and chronic pain.
- Outdoor runs that allow the hens to perform their natural behaviour. Outdoor runs should provide overhead cover such as trees to promote free-ranging behaviour.

- Provision of perches, nesting material and suitable substrates for foraging and comfort.
- Lower stocking densities to promote natural behaviour and reduce feather pecking.

Perhaps a ‘middle ground’ to the two production methods utilised in South Africa, free range and battery, would be the Barn or Perchery system, where the egg-laying hens are “kept in loose flock sheds with raised perches or platforms” where “the flooring must be littered, often wood-shavings are provided, and the stocking density numbers are 25 hens per square meter of floor space, with 15cm of perch provided for each bird” (Gold: 2011). This system would clearly lead to a slightly improved living standard for the battery cage hens, with a comparatively lower cost of production to the free range system.

This could be a situation where research can have a big role to play in improving the welfare of farming animals, as is proposed by Farm Foundation (2006: 142) – this would require public funds to be reallocated for this purpose. Such specific research can focus on the development and innovation of improved farming practices (encompassing breeding and husbandry practices, as well as farming and processing methods) that are considered both an improvement in animal welfare as well as economically feasible.

5.3. Education

It has become increasingly difficult for consumers to identify the traceability of the animal products that they consume. The ingredients found in foods that contain animal products have become progressively ‘less transparent’, where consumers find it very difficult to acquire information on the origin of such products, making it tough to gauge the actual welfare level of the product itself. Bennett (1997: 286) points out that despite the fact that consumers might be able to identify higher welfare products such as free range eggs (others that consumers may associate with higher welfare levels are other free range and organic livestock and poultry products), it might become almost unachievable for them to identify foods, such as baked and other processed goods, that make use of free range eggs as an ingredient.

It is a suggestion by Farm Foundation (2006: 142) that the way forward in tackling the animal welfare issue inherent in the North American system would be to make individuals aware and improve the understanding of the real, greater costs associated with comparatively lower welfare animal products, and the trade-off that exists between these two aspects. The distribution of information to all consumers, as well as all stakeholders within the animal products industry is key here – priority should be given to such a public programme. Indeed, Bennett (1997: 286) also suggests that an alternative to such a restrictive piece of legislation would be to provide for free market consumer choice with a comprehensive range of goods; to supply consumers with sufficient information, including the animal welfare consequence inherent in the production practice, about the animal products that they do consume to enable fully educated decisions. Even though such a strategy would potentially “reduce the numbers of animals ‘suffering’ as a result of undesirable production practices, it would not protect the welfare of all farm animals because there would always be some consumers who either were unconcerned about the animal welfare implications of the products they consumed or whose

concerns were secondary to other considerations such as price/budget constraints” (Bennett, 1997: 286). This is apt for a country like South Africa, in light of the large proportion of the population in a low socio-economic situation and who are simply concerned with fulfilling basic needs and do not have the monetary luxury to consider anything more sophisticated.

“The vested interests – if we explain the situation by their influence – can only get the public to act as they wish by manipulating public opinion, by playing either upon the public’s indifference, confusions, prejudices, pugnacities or fears...And the only way in which the power of the interests can be undermined and their maneuvers defeated is by bringing home to the public the danger of its indifference, the absurdity of its prejudices, or the hollowness of its fears; by showing that it is indifferent to danger where real danger exists; frightened by dangers which are non-existent”⁶²

Interestingly, within the socio-psychological field, the relationship between animal cruelty and human violence is widely accepted: “Someone who is cruel and violent to animals will also be so to people. We need to sensitise a desensitised nation and the younger we start, the better”.⁶³ In light of this, the Humane Education Trust (HET) whose slogan reads ‘Teaching a culture of non-violence’ looks to establish this sense of care and respect to all life forms, and believe that there would be benefits from a country-wide programme that encourages humane treatment of animals. They make available a range of learning material, such as books, compact discs and posters that teachers are able to use in the classroom environment that promote a positive and uplifting relationship between human and animal. Such material could constitute a small component in the Life Orientation subject that form part of the standard national curriculum. According to Farm Foundation (2006: 142), another aspect to consider would be to integrate all-encompassing animal welfare teaching material (examining biological, ethical and socioeconomic implications of farming practices) into tertiary institutional syllabi within the animal science type courses.

The NSPCA have successfully campaigned against numerous farming practices with negative impacts on animal welfare (Wilkins *et al.*, 2005: 628). Other local organisations have become increasingly vocal regarding the treatment of battery cage hens and have called for this production method to be banned, as well as appealing to the average customer to be aware, sign their petitions and make informed decisions when making egg purchases. Indeed, during correspondence with a Woolworths spokesperson, it emerged that Animal Voice and Activist are two organisations that were referred to as ‘prominent stakeholders in recent times’ in promoting the ban of battery cage eggs, more specifically to stop them from being sold by Woolworths (McLaughlin T. pers. com 2011).

A welfare-specific education advocacy is loosely supported by the data results within this thesis in that the mean post-information exposure (regarding the welfare conditions of the hens of both egg varieties) WTP in Rands is higher than the WTP before being informed on the

⁶² Sir Ralph Norman Angell - Labour party representative as a Member of Parliament in England and Nobel Peace Prize winner in 1933 – quote as extracted from Biophile Magazine (2011).

⁶³ Dr S. Kaliski - head of forensic psychiatry at Valkenberg psychiatric hospital, Cape Town

welfare conditions. This broadly implies that individuals responded to an education in animal welfare.

If the dissatisfaction of some consumers persists despite an increase in public awareness and campaigns, Farm Foundation (2006: 142) expects that there will be an increase in public pressure for the improvement and implementation of further legislation - a progression to the relatively heavy reliance on policies and procedures similar to the situation in European countries.

5.4. The Consumer Protection Act – Labelling

Suitable legislation around food labelling becomes vital when trying to provide consumers with certainty around the welfare quality of the foods that they are consuming. The recently introduced and implemented Consumer Protection Act (CPA) might be considered to be a step in the right direction. Very recently, as discussed previously, The Big Issue published an article about factory farming in South Africa in light of the new CPA, and the effects that certain proposed policies (as a result of this Act) would have on this industry. The extension of this act will look to inform the consumer directly on the production process of the animal product itself as well as an input to a processed product by means of product labelling. This is something activists are currently fighting for as a result of this act being passed – challenging those consumers who make ignorant or impartial consumption decisions as well as producers who hamper information access and make it impossible for the public to know where their food comes from.

According to this popular literature street magazine, South African Compassion in World Farming (CIWF-SA) representative, Louise van der Merwe mentions that the majority of consumers assume that their food has been humanely produced (Kendal *et al.*, 2011: 27). This is a rather sweeping statement in light of the retailer's survey conducted as part of this thesis seems to suggest that grocers believe that the majority of consumers do not inherently consider the welfare of the animals but that the price of the product takes top priority. Van der Merwe hopes that the CPA would be utilised in raising awareness to consumers about the animal cruelty present in local factory farms, or feedlots. "The Act gives the consumer the right to fair and honest dealing from suppliers. Suppliers cannot take advantage of consumers who, due to ignorance or illiteracy, cannot protect their own interests, like making an informed decision on which meat products to buy. And being informed, according to CIWF-SA, means knowing if an animal was raised and slaughtered in a feedlot farm and what that entails" (Kendal *et al.*, 2011: 27). Resultantly, this Consumer Protection Group wants to implement an animal meat product labelling system, which will explicitly stipulate that the meat has been factory farmed. According to Grethe (2007: 324), this would be an example of 'obligatory' or 'negative' labelling⁶⁴, where products that do not meet certain legislative minimum welfare requirements have to be labelled, and has the potential to be effective. "Obligatory labelling can be expected

⁶⁴ This is an alternative to voluntary or positive labelling that will highlight whether the product is above a certain legislative minimum welfare standard such as 'free range' or 'organic' (Grethe, 2007: 323). This positive labelling system currently gets used in the South African animal product market, but it is suggested by Grethe that this labelling scheme has limited efficacy on consumers especially because more information at that point has little effect on point-of-sale decisions.

to be more efficient with respect to its primary aim, as more consumers may be prevented from buying a product by a label that states ‘not produced according to EU animal welfare legislation’ than by the nonexistence of a positive label” (Grethe, 2007: 324).

Apart from labelling, CIWF-SA have also now commenced a ‘class action complaint’ (which was made possible by the Act stipulating it possible to challenge ‘unconscionable’ production methods) against certain methods used in the factory farming process. Two of the four methods concern the battery egg industry: de-toeing, de-beaking, and keeping hens in very small and cramped battery cages that hinder the acting out of natural behaviours; and, the South African egg industry annually killing 23 million male chicks inhumanely. The success of such a complaint against the industry could lead to a legislative ban on such methods (Kendall *et al.*, 2011: 27-28).

However, even in light of increased consumer awareness and labelling regulation, farm animal welfare will still not be fully guaranteed Bennett (1997: 286) cites Mishan’s⁶⁵ (1993) opinion that “in view of the financial temptations, the strictest government controls will always be necessary if a significant deterrent to cruel and inhumane treatment of farm...animals is to prevail”. It becomes apparent that Bennett believes that, even with improved consumer information, a free market system will continue to fail in improving the welfare of farm animals – direct government intervention becomes a necessity. This view is potentially supported by the survey data of this dissertation, in that respondents felt that product labels were the one of the two least effective tools in informing them about welfare issues associated with their purchased animal products. This component of the CPA relies heavily on the consumer’s use of food labels, but it’s efficacy could be compromised should individuals not be in the habit of reading these labels, never mind not finding the information on these labels of use in such welfare matters.

5.5. Financial Incentives

Bennett (1997: 286) suggests that it might be wise to unite fundamental legislation with a financial incentive to producers, such as a subsidy payment to further improve welfare. This subsidy would be based on the level of welfare that gets realised during the farming practices – the greater the level of welfare attained by the farmers, the greater the subsidy. The size of the

⁶⁵ In *Economists versus the Greens*, Mishan (1993: 230) explicitly addresses the issues around property rights and intensive agriculture in that “Compulsory labelling and the spread of consumer information can only go so far in checking these repugnant commercial practices. In light of financial temptations, the strictest government controls will always be necessary if a significant deterrent to cruel and inhumane treatment of farm and domesticated animals is to prevail”. Government intervention in terms of property rights, by means of taxes or subsidies, will account for the ‘bads’ that are not captured in the market price of the good. If these government controls fail to ensure improved welfare of the animals, by extension, they will fail to guarantee the health of people who consume these animal products. This is because of the chemically-ridden feed of the animals. “Given a rapid rate of innovation in chemicals, any one of which alone or in combination with others, may eventually prove toxic, the case for greater government vigilance and control, and the case for greater citizen information, can hardly be exaggerated” (Mishan, 1993: 231). However, Mishan (1993: 242) states that environmental preservation within developing nations remains unlikely: “But for the hundreds of millions of near-destitute families...a manifestly deteriorating environment may not seem too high a price to pay for some material improvement in their lives or for a better chance of survival”. Here, parallels between environmental protection and animal welfare can be drawn.

subsidy would be dependent on how much consumers (in monetary terms) value a welfare improvement and on the increase in production costs associated with greater welfare farming processes. Implementing a subsidy scheme on free range eggs could have the consequence that after a while, battery cage eggs would no longer be produced or resultantly, consumed, assuming that consumers would have a preference for the higher welfare product. As is cited in Bennett (1997: 286), the European Commission and European Parliament (1989) deem that subsidies could help to "preserve and improve the natural environment and animal welfare by preventing undesirable intensive farming" as well as providing much-needed extra income to farmers. The Common Agriculture Policy of the EU currently provides funding opportunities to those who choose to employ higher welfare standards in the farming practice (Bonafos *et al.*, 2010: 27).

As in any subsidy scheme, however, there is a burden, typically borne by the general taxpayers. Such a scheme could also prove to be very costly especially in light of an already over-stretched governmental budget.

A potential alternative to subsidies would be to penalise those farmers who make use of welfare disbanding practices - battery cages - in the form of taxes. The lower the welfare attributes of the farming practice, the greater the producer tax. This has the potential to be financially damaging to smaller, local egg producers, but could encourage the larger producers to improve the conditions egg-laying hens experience.

Perhaps, a more holistic position to take here would be to target the small scale farmers. Wilkins *et al.* (2005: 630) highlights the NSPCA's view that it is imperative to involve both established and newly starting small-scale farmers in the future, especially in light of the new Comprehensive Agricultural Support Programme as implemented by the National Department of Agriculture – the NSPCA wishes to bring an animal welfare component into this programme to offer advice and to ensure that these new schemes will maintain or hopefully improve welfare standards. In order to ensure success, linkages between these smaller, local producers with higher welfare products need to be established with the retailers within their area.

5.6. The Bigger Picture

It also becomes important to develop this microeconomic issue into a macroeconomic one, where economic development in the more developed countries is typically accompanied by an improvement in process standards, resulting in standards to be increasingly heterogenous. Clearly, this has implications for international trade (Grethe, 2007: 316). The costs of complying with the suggested animal welfare improvement legislation may encourage producers to relocate to other countries where these regulations do not apply, thereby compromising food security within South Africa and would have repercussions for the level of imports and exports of eggs. The major fear would be for a loss in international competition of our exports in light of producing consequentially higher priced eggs, especially to countries in Africa. As seen in chapter 3 of this thesis, the South African egg market is fairly self-sufficient and closed off in that the level of imports and exports are comparatively low, making relocation unlikely and the impact on international trade low. Having said that, there is

potential for the industry and the levels of exports and imports to change quite significantly should such a ban be put into practice.

Such a situation could also potentially create ‘low welfare havens’ – low animal welfare would simply be displaced to other regions, often to the more developing ones and not be wholly improved upon (Grethe, 2007: 315). Similarities here could be drawn with the classic sweat shop scenario, where sophisticated labour laws in certain countries have pushed producers to move production to others where such restrictions do not exist. This could also be applicable to intellectual property rights and environmental standards, where the better-known ‘pollution haven hypothesis’ has been under discussion for decades now. There has been little evidence of this, however, potentially because of the relatively low cost associated with compliance to the new standards. An improvement in animal welfare standards on the other hand is expected to be associated with high compliance costs, and the impact on relocation and international trade is thus expected to be high (Grethe, 2007: 316).

Complementary policies to such a ban should be undertaken that would prevent such relocation from taking place. Each of these policies has numerous implications and varying levels of efficacy. These intervention policies are split up into demand-side and supply-side policies. The former includes the development of product differentiation through adequate labeling systems, which has already been discussed above. The latter could incorporate: compensatory payments to domestic producers who adhere to the higher welfare standards, also already touched upon in this section; multilateral trade agreements, which would be restricted to the UK and other compliant EU countries; and lastly tariff discrimination in the form of ‘animal welfare tariffs’ (Grethe, 2007: 316). Grethe (2007: 316) also argues that a major problem arising from these suggested policies as ‘solutions’ is that they do not comply with the current World Trade Organisation regulations, and so it becomes necessary to ask whether the WTO would allow such policies to be imposed in light of this suggested increase in compliance standards. It should become an issue of priority to the Organisation, especially since such a ban will be implemented in the UK in 2012 and because it is a decision that will be important in not only the field of agriculture, but also to that of labour law, environmental protection, and the like – animal welfare has developed into a component of a much greater societal, ethical and economic debate.

5.7. Final Thoughts

The concept of animal welfare, as emphasised previously, forms part of a greater social debate. This thesis argues that, if Smith’s theory of empathy in the utility functions of consumers holds, the lack of knowledge of the average consumer and the disconnected perception between consumption choices and greater collective issues such as public health and environmental sustainability has caused a sub-optimal animal welfare result in society. Certainly, “despite our collective dependence upon agriculture, most...have lost any connection to their agrarian heritage”. Yet, if we do not understand where our food comes from and how it gets to our table, who produces it and...at what cost, we stand to jeopardise the very food supply that sustains us...What we eat has real consequences for workers, communities, and the environment” (Broadway & Stull, 2003: xvi-xvii). These are social and economic externalities

that are, by their very nature, not accounted for by means of the low prices of the animal products originating from intensive agricultural methods. What is a vital first step in this process of change is to recognise that the holistic system is not sustainable and is essentially worsening intergenerational and interspecies equity. As commented by Janice Cox, the co-author of CIWF document 'The Livestock Revolution: Development or Destruction', "It is time to call a halt to the global growth of factory farming...to take time out to review the hard-learned lessons of the USA and Europe and assess how this deadly development can be halted, and energies redirected to growing food that is gentle to the animals and the environment, as well as being healthy and safe to eat, affordable and accessible to the poorest of the poor" (Van der Merwe, 2011).

It is through extensive and broad-based education and campaign awareness in establishing 'food knowledge' that society is able to change current consumption patterns and stimulate demand for higher welfare animal products. Such a social consumer-driven movement can work in conjunction with legislation and regulation. While numerous academics feel that it remains vital to have the public in support of legislation, many have stressed that in a situation where the market system has clearly failed, direct government intervention will be necessary. This is clearly the case for concentrated animal feeding operations. The valuation results and policy recommendations have shown that the consumers involved deem legislation vital for the protection of farm animals –according to Bennett and Blaney (2003: 93) Mishan (1993) affirmed that, society cannot depend on the market to defend the welfare of animals. The ethical debate then arises regarding the point at which consumption choice (that drives the welfare of the farm animals) should be made superfluous by law. In a society governed by human egocentrism where the role and treatment of farm animals have largely been trivialised, this debate becomes crucial.

It is understood that should such a piece of legislation be passed in South Africa, it is more than likely that the price of eggs will increase. This would have more impact on the large portion of the population who mostly consist of poor consumers - some may argue that this would be a social injustice and this would potentially be one reason for legislators (i. e. government who want to retain popularity) not to implement such legislation.

As discussed, new South African animal welfare legislation (that will repeal all previous welfare legislation) will hopefully be made public very soon, despite being 3 years overdue. South African consumers will have to wait and see whether the much-anticipated legislation as drafted by the Department of Agriculture in association with the South African Veterinary Association will sufficiently address the issues discussed within this thesis, whether legislators will take a bold stand against the systematic abuse of farm animals, following in the footsteps of the European Union countries. Should comprehensive legislation be passed, it must be remembered that the debate around farm animal welfare remains multifaceted - legislation constitutes only one component to the debate, "The farm animal welfare issue is one of ethics—public ethics. The choice of how animals are raised affects not just the consumer but reflects the social norms of everyone. Because people have conflicting views on this matter there is no reason to believe the matter will be settled soon, or settled without a long, bitter battle in the public, legislative, and judicial arena" (Norwood and Lusk, 2009).

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Appendices:

APPENDIX A – THE GROCERS’ SURVEY



Survey for Grocery Store Managers

The following questions are to identify the demand behind the in-store sale of different egg varieties. My topic looks at the valuation of welfare in terms of purchasing free range eggs (the more 'ethical' or higher welfare choice) instead of the conventional battery cage eggs. Most of the questions below are quite open-ended but the text in brackets can, in some cases, be used as guidelines to the type of information I am after in each of the questions.

1. Which egg varieties do you stock in-store?

(Here I would like to know whether you stock both free range or battery cage eggs. What is the shelf space ratio assigned for each of the two varieties?)

2. What are the reasons behind you stocking these particular varieties?

(Here I would like to know whether it is as a result of consumer demand, product variety, personal choice, the socio-economic factors of your customers etc.)

3. What type of relationships do you have with the egg farmers that supply your eggs?

(Do you have much choice around the suppliers you stock? Are you aware of the living conditions of the hens that lay the eggs at the farms of your suppliers?)

4. What are the incentives that could be offered to you to guarantee that you only stock free range eggs?

(Also, would incentives be necessary or would you be happy to stock only free range voluntarily? And what affect would this have on your business in terms of sales etc.?)

5. Have consumers voiced any concerns around egg varieties and have you taken any steps to address these concerns?

(Also, what are the important factors that consumers look at when purchasing eggs?)

6. What is your pricing strategy for eggs?

(I understand that usually a 'cost plus mark-up' approach is used, but is this mark-up percentage the same for free range and battery cage eggs? Free range is more expensive than battery eggs, but is your mark-up higher for free range? If possible, I would like to know the cost versus the selling price.)

7. Do you think that the market for 'ethical' products is purely a niche strategy?

(Do you think that these products, such as free range eggs, will continue to have relatively small market share or do they have the potential to become more established given increased consumer education?)

8. What are the factors that identify the 'ethical' consumer?

(Here I would like to identify the 'average' consumer who might request free range/organic products in terms of socio-economic factors such as gender, age, income bracket etc.)

9. In what ways, if any, will a national ban in battery cage eggs affect your business?

(Also, would you be willing to support this type of legislation?)

**Thank you very much for taking the time to complete this survey.
Your contribution is very much appreciated!**

APPENDIX B – THE CONSUMERS’ SURVEY



EGG CONSUMER SURVEY

This survey is intended to capture consumers' egg consumption information. It distinguishes between free range and battery eggs – for the purposes of this survey battery eggs are acknowledged to be all eggs that are not free range. As such, the terms 'non-free range' and 'battery' are used interchangeably.

It will take approximately 15 minutes to complete. PLEASE ONLY COMPLETE THIS SURVEY IF YOU CONSUME EGGS.

1. What are the characteristics that you think about when buying animal products?

Please rank the following from 1 (NEVER) to 5 (ALWAYS):

	1	2	3	4	5
Taste					
Health considerations					
Advertising and packaging					
Price					
Appearance of the actual product					
Convenience					
Animal welfare					
Quality					

2. Do you have any concerns about the treatment of farm animals that influence your product choices?

No	Yes
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3. If you answered "YES" to Question 2 above, list any concerns about the treatment of farm animals that influence your product choices.

4. How strongly do you agree or disagree with the view that farm animals feel pain and are affected by it in the same way as humans?

Strongly disagree	Disagree	No opinion	Agree	Strongly agree
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5. How strongly do you agree or disagree with the view that it is wrong to eat animals that have not had a 'good life'?

Strongly disagree	Disagree	No opinion	Agree	Strongly agree
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6. What are the factors that you think about when purchasing eggs?

Please rank the following from 1 (NEVER) to 5 (ALWAYS):

	1	2	3	4	5
Price					
Size of eggs					
Packaging					
Eggs shell colour					
Expected colour of yolk					
Chicken's welfare					

7. Do you know the difference between the conditions experienced by egg-laying BATTERY and FREE RANGE chickens?

No	Yes
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8. To what extent do you agree or disagree with the following statement: "I feel sufficiently well-informed about the welfare of egg-laying chickens."

Strongly disagree	Disagree	No opinion	Agree	Strongly agree
-------------------	----------	------------	-------	----------------

9. How good do you think welfare conditions are for the following types of egg-laying chickens:

	Don't know	Very poor	Poor	Average	Good	Very good
Battery chickens?						
Free range chickens?						

10. Indicate if you have been informed of animal welfare issues through any of the following information sources by assigning one of the following ratings to each of the categories.

	Never	Seldom	Sometimes	Regularly	Always
Product label					
In-store information					
Internet or websites					
Mass media					
Friends or family					

11. In your opinion, how sensitive to consumers' wishes are the grocery stores at which you shop?

Not at all	Hardly	Average	Above average	Greatly
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12. Would an animal welfare assurance or grading mark be valuable in helping you make selection decisions when buying a specific brand of eggs?

Not at all	Slightly	No opinion	Reasonably	Very
------------	----------	------------	------------	------

13. Are you prepared to pay higher prices for all animal food products if they were necessary to ensure the improved welfare of all farm animals?

No	Yes
----	-----

14. If you answered "YES" to Question 13 above, how much extra would you be prepared to pay for your WEEKLY household food bill to ensure improved welfare for the farm animals concerned?

RANDS _____

15. Are you prepared to pay a higher price for eggs if that is necessary to improve the welfare of egg-laying chickens?

No	Yes
----	-----

16. If you answered "YES" to Question 15 above, how much extra would you be prepared to pay for 6 eggs? (NOTE: 6 non-free range eggs cost on average R9.50)

RANDS _____

The following questions related to our demographic information are necessary to determine how representative of the general population this survey is. Please remember that this survey is strictly **CONFIDENTIAL** and **ANONYMOUS**.

17. What is your gender?

Male	Female
------	--------

18. What is your age bracket?

Under 18	18-23	24-29	30-39
40-49	50-59	Over 60	

19. What is your race?

Black	Coloured	Indian	White	Other
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20. What is your highest level of education completed?

No schooling	Primary School	Secondary school	Matric
Diploma/Certificate	Bachelors degree/ Honours degree	Masters degree and above	

21. What is your occupation?

22. How many individuals are there in your household?

Adults _____ Children (under 18 years) _____

23. What is your household MONTHLY income before-tax?

R0-R3 000	R3 001 – R6 000	R6 001 – R9 000	R9 001 - R12 000
R12 001 - R15 000	R15 001 - R18 000	R18 001 - R21 000	R21 001 – R24 000
R24 001 – R27 000	R27 001 – R30 000	R35 001 and above	

24. How much, on average, is spent on your household's food bill each WEEK?

RANDS _____

25. How much, on average, does your household spend on meat, dairy products and eggs each WEEK?

RANDS _____

26. On average, how many eggs does your household purchase each WEEK?

Number of eggs: _____

27. Of the number of eggs indicated in Question 26 above, how many are:

Non-free range eggs? _____ Free range eggs? _____ Don't know? _____

28. If applicable, what are the reasons that you purchase NON-FREE RANGE eggs?

29. If applicable, what are the reasons that you purchase FREE RANGE eggs?

Please read the paragraph below, then answer the questions that follow.

BATTERY / NON-FREE RANGE EGGS

Battery chickens are each typically caged in a space less than the size of an A4 sheet of paper; typically, 8-10 hens will fit into the average filing cabinet, without access to the outside world. As a result, they do not have enough space to stretch their wings or lie down.

Battery chickens often experience broken bones due to a lack of exercise and lack of sufficient calcium in their diets. Due to the unnatural, confined and sterile living conditions, battery chickens are prevented from behaving instinctually and thus often become bored, stressed and aggressive. This results in chickens pecking each other and dramatic feather loss. Consequently, some producers 'de-beak' chickens (remove beaks with a hot knife), causing severe and sometimes chronic pain.



FREE RANGE EGGS

Free range chickens are not caged, but are kept in enclosed sheds or barns. They typically have access to an outside field by means of a 'cat-flap' type mechanism, where they can walk freely. These chickens are able to develop at a more natural rate and partake in natural behaviours such as spreading their wings, pecking, foraging, exercising and laying eggs in nests. Due to these factors, free range chickens experience improved health and quality of life.



30. Were you aware of the difference between the conditions experienced by egg-laying BATTERY and FREE RANGE chickens prior to seeing the information above?

No	Yes
----	-----

31. Based on the information provided and your knowledge of the subject, what is your opinion of the difference between the conditions experienced by egg-laying BATTERY and FREE RANGE chickens?

32. Will the information provided above influence your egg consumption patterns?

No	Yes
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Imagine that the South African Government is considering legislation to phase out the use of 'battery' cages in egg production within South Africa by 2015. From 2015, no egg producer will be allowed to use 'battery' cages. This will involve a production cost increase and South African egg consumers will have to pay increased egg prices.

33. Would you support the legislation described above?

No	Yes	I am indifferent
----	-----	------------------

34. Given the information above, would you be prepared to pay a higher price for eggs if that is necessary to phase out the use of battery cages in egg production?

No	Yes
----	-----

35. If you answered "YES" to Question 34 above, how much extra would you be prepared to pay for 6 eggs? (NOTE: 6 non-free range eggs cost on average R9.50)

RANDS _____

36. To what extent do the following statements reflect your own feelings with regards to the responses that you have given to the willingness to pay questions above?

Please score the statements below from 1 ("Not at all true of my feelings") to 10 ("Very true of my feelings"):

	Score
My willingness to pay is like a charitable donation to a worthy cause.	
My willingness to pay is not just for chicken welfare but for farm animal welfare generally.	
Legislation is necessary to ensure that no chickens are kept in battery cages.	
My willingness to pay reflects my personal satisfaction from not consuming battery eggs.	
My willingness to pay reflects my belief that other consumers will continue consuming battery eggs despite my contribution.	



APPENDIX C – CONSUMER SURVEY DATA AND RESULTS



Respondent Profile

Category	Number	Percentage of Total
Gender		
Female	79	66%
Male	40	34%
Age Bracket		
under 18	0	0%
18-23	9	8%
24-29	56	47%
30-39	25	21%
40-49	11	9%
50-59	8	7%
Over 60	10	8%
Race		
Black	7	6%
Coloured	9	8%
Indian	22	18%
White	79	66%
Other	2	2%
Level of Schooling		
No schooling	0	0%
Primary School	1	1%
Secondary school	7	6%
Matric	11	9%
Diploma/Certificate	28	24%
Bachelors degree/ Honours degree	49	41%
Masters degree and above	23	19%
Income bracket		
R0-R3 000	6	5%
R3 001 – R6 000	11	9%
R6 001 – R9 000	6	5%
R9 001 - R12 000	9	8%
R12 001 - R15 000	10	8%
R15 001 - R18 000	7	6%
R18 001 - R21 000	6	5%
R21 001 – R24 000	10	8%
R24 001 – R27 000	8	7%
R27 001 – R30 000	19	16%
R35 001 and above	27	23%

Willingness-To-Pay Results

Gender

	Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
	R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
Male	R15.77	R17.35	R1.57	6.46%
Female	R14.37	R16.00	R1.63	25.38%

Age

	Change in WTP after information	Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
	Number of people	R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
0-18	n/a	n/a	n/a	n/a	n/a
19-23	1	R17.89	R16.94	-R0.94	-1.71%
24-29	10	R15.37	R17.47	R2.11	4.90%
30-39	3	R15.00	R16.88	R1.88	21.13%
40-49	1	R12.64	R14.46	R2.00	104.55%
50-59	1	R12.80	R14.30	R1.50	36.90%
Over 60	2	R12.84	R12.94	R0.10	0.00%

Race

	Change in WTP after information	Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
	Number of people	R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
Black	3	R14.21	R17.79	R3.57	38.10%
Coloured	1	R15.17	R17.33	R2.17	36.05%
Indian	7	R13.75	R17.50	R3.75	11.52%
White	7	R15.02	R15.84	R0.82	17.96%
Other	0	R20.50	R20.50	R0.00	0.00%

Education

	Change in WTP after information	Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
	Number of people	R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
No schooling	n/a	n/a	n/a	n/a	n/a
Primary School	0	R16.00	R20.00	R4.00	61.54%
Secondary school	1	R11.21	R11.92	R0.71	21.98%
Matric	1	R12.32	R13.18	R0.86	80.30%
Diploma/Certificate	4	R14.51	R16.23	R1.71	21.76%
Bachelors degree/ Honours degree	10	R15.81	R18.03	R2.22	8.91%
Masters degree and above	2	R15.46	R16.15	R0.70	6.70%

Income

	Change in WTP after information	Pre-info WTP	Post-info WTP	Delta WTP	Delta WTP
	Number of people	R9.50 plus WTP	R9.50 plus WTP	Absolute	Relative
R0-R3 000	2	R31.00*	R31.67*	R0.67	-13.33%
R3 001 – R6 000	3	R13.31	R14.30	R1.00	6.55%
R6 001 – R9 000	1	R12.75	R16.58	R3.83	14.44%
R9 001 - R12 000	2	R12.61	R15.00	R2.39	25.40%
R12 001 - R15 000	2	R13.00	R15.70	R2.70	18.33%
R15 001 - R18 000	0	R15.86	R16.00	R0.14	10.09%
R18 001 - R21 000	1	R15.33	R17.50	R2.17	19.44%
R21 001 – R24 000	0	R15.80	R14.40	-R1.40	-10.83%
R24 001 – R27 000	0	R16.25	R18.38	R2.13	56.25%
R27 001 – R30 000	2	R14.10	R15.94	R1.84	45.69%
R35 001 and above	5	R13.15	R15.11	R1.96	13.92%

* This mean WTP is abnormally high because of an individual in the sample who gave a WTP of R100 on 6 eggs – clearly the individual did not read the question correctly. If this individual is excluded from the sample, the first WTP drops to R15,30 and the second to R16,10.

Income Regressions

Source	SS	df	MS	Number of obs = 94		
Model	1.45573433	3	.485244777	F(3, 90)	=	0.64
Residual	68.0775062	90	.756416735	Prob > F	=	0.5903
				R-squared	=	0.0209
				Adj R-squared	=	-0.0117
				Root MSE	=	.86972
Total	69.5332405	93	.747669253			

logWTP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logEggExp	-.036075	.1266497	-0.28	0.776	-.2876868	.2155368
logFoodExp	-.1551835	.1556061	-1.00	0.321	-.4643223	.1539552
logIncome	-.0257387	.1530502	-0.17	0.867	-.3297996	.2783223
_cons	2.896105	.8487354	3.41	0.001	1.209944	4.582266

Source	SS	df	MS	Number of obs = 94		
Model	7.19364129	6	1.19894022	F(6, 87)	=	1.67
Residual	62.3395992	87	.716547117	Prob > F	=	0.1371
				R-squared	=	0.1035
				Adj R-squared	=	0.0416
				Root MSE	=	.84649
Total	69.5332405	93	.747669253			

logWTP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
logEggExp	.0083131	.1291317	0.06	0.949	-.24835	.2649763
logFoodExp	-.1985245	.1545343	-1.28	0.202	-.5056781	.1086292
logIncome	.0223756	.1502821	0.15	0.882	-.2763263	.3210774
race	-.0995891	.1040943	-0.96	0.341	-.3064877	.1073095
ageBracket	-.1518741	.0709479	-2.14	0.035	-.2928907	-.0108574
gender	-.167348	.1968048	-0.85	0.397	-.5585188	.2238228
_cons	4.204784	1.000743	4.20	0.000	2.2157	6.193869

The above exploratory regressions utilised the data generated by the conducted consumer survey, where the variables are listed below.

The regressor, or independent variable is logWTP, where WTP is the willingness to pay from the question starting with "If you answered yes to question 13 above..." The logarithm of this variable was used.

The dependent variables are as follows:

- logEggExp is the log of egg expenditure (the amount of money the household spends on eggs)
- logFoodExp is the log of food expenditure (the amount of money the household spends on food)

- logIncome is the log of household income
- race is the variable indicating the race group of the individual
- ageBracket is the variable indicating the age group of the individual
- gender is a dummy variable, where male = 0 and females = 1 (Interestingly, the negative coefficient sign supports the data analysis within the Consumer Survey chapter – females have a lower WTP than males)

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